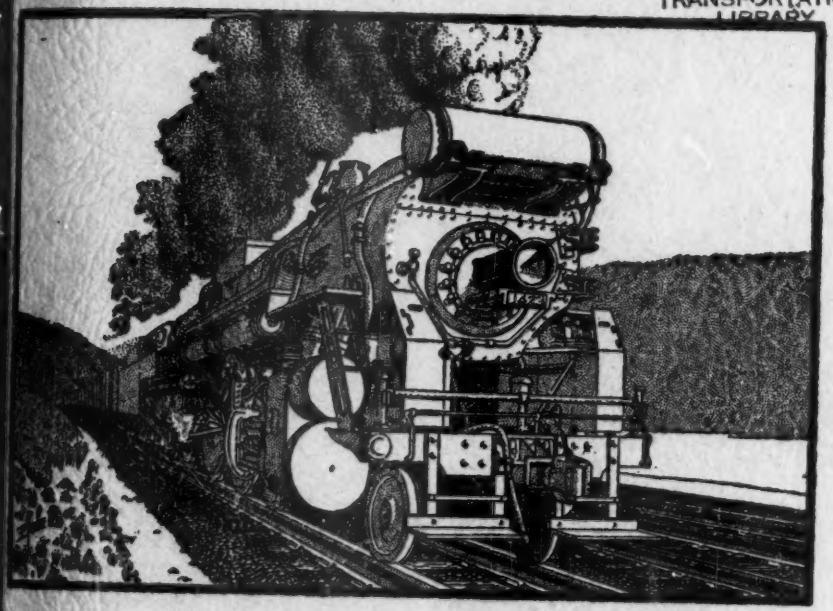
The Railway and Locomotive Historical Society

BULLETIN No. 92



THE RAILWAY AND LOCOMOTIVE HISTORICAL SOCIETY

APRIL, 1955

BULLETIN No. 92

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The

Railway and Locomotive Historical Society,

Inc.

We welcome again to our columns a contribution of Dr. C. F. H. Allen which will be the first of two papers on the Pittsburg, Shawmut & Northern R. R. and the companies that went into the formation of this railroad. The balance of the material will appear in our next bulletin. We are also submitting another Newton paper in which he traced the origin of the very earliest locomotives of the Chicago, Burlington & Quincy R. R. as listed in their 1858 roster. We are glad to publish another paper from Paul T. Warner covering the efforts and activities of George S. Strong, a locomotive designer.

F. Stewart Graham, our Assistant Editor has contributed a New York version to the Vermont railroad war mentioned in Bulletin No. 90 and he has also made a contribution of builder's plates and construction numbers that should be of interest. Andrew Forest Muir has recounted how a Lieutenant Governor of Massachusetts became a railroad conductor in Texas prior to and during the Civil War and Fred Jukes has contributed an account of the construction of some locomotives for the Memphis, El Paso & Pacific R. R. in France. The fact that

they were not delivered probably resulted in the saving of some effort and much "cussing" but, we cannot overlook the fact that many of our American railroads were financed abroad. It would have been easy for them to have insisted that some of the rolling stock be purchased in their country, to their advantage but, so far as your editor knows, this was never resorted to. In view of the recent India situation, it seems that we Americans might well take stock of our own silly actions— perhaps our "Yankee" engines are held in the same esteem as those built overseas are regarded in this country.

During the past decade, your Society or your editor has acquired a certain amount of photographic material of our railroads at the turn of this century. I think that most of these photographs will be new to the majority of our members and, it is proposed that a brief article covering the history of the road and its motive power, illustrated by some of these prints, be used in our bulletin. The Vandalia is the first attempt in this direction.

It has been a pleasure to acknowledge the many letters complimenting the four articles on the valve gears by Fred Jukes and my own series of articles on the Pennsylvania R. R., together with the tribute to John S. Powell. In Bulletin 91, I want to correct an impression in that the American Locomotive Co., built some of the L-1s engines for, they did not. ALCo. furnish the U. S. R. A. Mikado type. Some of the letters contained suggestions for further motive power studies of some of our railroads and, perhaps these can be made over the coming years.

I am also indebted to E. T. Francis and Robert C. Schmid for identifying the locomotive attached to the marl train illustrated in Bulletin 90, opposite page 156. Both state the locomotive was Camden & Amboy No. 47, built by the New Jersey L & M Co. in 1852 and subsequently renumbered Pennsylvania R. R. 647. The photograph was made after the P. R. R. took over control of the C & A and, Mr. Francis points out that Wm. H. Gatzmer was superintendent of the C & A for a number of years and the station in the postscript should be Delanco.

Lastly, one of our members, Howard C. Mewherter of Latrobe, Pennsylvania extends a cordial invitation to any of our members to visit his own railroad museum whenever they are in the immediate vicinity—8 to 11 P. M., the last three days of each week. Most of his material originated from the roads in the immediate vicinity but, if you are in the western part of the "Keystone" state, it would be nice to stop by and have a chat with a "rail fan."

COVER DESIGN

Had anyone living in the immediate vicinity of Boston, within the last decade, paid a visit to Beacon Park Engine Terminal of the Boston & Albany R. R., they might have noted a single locomotive placed on one of the side tracks and nearby would be found a young lady industriously copying the details on her drawing board. Yes, it was our artist—Miss Elizabeth Tone. "Betty" comes from a railroad

family—her father was employed by the New Haven R. R. for many years and she inherits her father's interest in railroading. An artist depicting locomotives or railway scenes works under a handicap and one of the opposite sex is further handicapped. Despite these, "Betty" has done some admirable work on Christmas cards, neckties, etc. and we are glad to reproduce one of the sketches of this young lady who is one of our members.

The Pittsburg, Shawmut and Northern, and all Associated and Predecessor Roads

Part I

By Charles F. H. Allen

Foreword by the Editor

Dr. C. F. H. Allen, author of this history of the P. S. & N. and its predecessor lines, presented with his manuscript verbatim copies of the reports of the inspectors of the New York Railroad Commission on conditions existing on a number of the railroads whose histories are included herein.

For a number of reasons it has seemed best to omit these reports. In the first place, there is, of necessity, a limit to the bulletin space available for its articles. Secondly, these reports are all a matter of record and are in the files of the N. Y. R. R. Commission. Thirdly, the reports are extremely detailed, methodical and exhaustive, the work of men who made systematic inspections, and rendered their reports realizing that any mishap occurring from any cause not covered in his report might well jeopardize his job.

Among the many items reported on by the inspectors were rails, ties, switches, fish plates, bolts, switch stands and targets, bridges, trestles, fills, stations, buildings, signs, mile-posts, trees, weeds, and ballast.

Because of the omission of these reports, there has been substituted in their stead a digest of each, in which the general conditions reported are noted.

Editor

FOREWORD

The Pittsburg, Shawmut and Northern was only the last in a long series of railroad companies that had a most interesting history in Allegany County, N. Y. and McKean County, Penna. Although several partial accounts have appeared in our bulletin, there is a great deal of scattered additional information that should be collected and recorded because of its historical importance. This work has now been done and the results are published herewith. The details have been compiled from printed or written documents, such as the Reports of the Railroad Commissioners of the State of New York, Poor's Manuals of Railroads, and letters from numerous sources, some replying to specific questions. Articles from contemporary newspapers are included. It is to be regretted that the very volume of editorials and columns of news items on the railroad's last days, when it was the subject of court action and final sale, precludes its reproduction here. Other omissions are the contract with the Interior Construction & Improvement Co. (Bull. 64, p. 36) and certain details relating to the Kasson Loop (Bull. 64, p. 38) and to the demise of the road (Bul. 82, p. 58).

Attention is called to the signatures of persons important to the history of the road, viz. George Chapman, Frank Sullivan Smith, and others, on the passes. It should be noted that Pittsburg is spelled without the final "h" of the city in the names of the P. S. & N. and P. & S.

The cooperative assistance of a number of people has contributed a wealth of detail. Our members, C. E. Fisher and S. R. Wood. supplied data on old locomotives. Former employees of the Shawmut road, who contributed many facts and anecdotes were E. L. Frazier, Jr., F. E. Gerg, Charlie Lyons, C. L. Lathrop, Randolph Soranson, F. H. Wells, and Nathan Wells. R. G. Nugent drew up the list of bridges, and supplied other details. A local junkman unwittingly helped by buying up the voluminous old records of the road for waste paper, when the road was abandoned in 1947, thus temporarily preserving them for your historian.

Available photographs, not hitherto published, are inserted at appropriate places in the account. Many pictures are from my own collection; the other largest single source is the Mott Collection (of old glass plates) in the Wellsville, N. Y. Public Library.

INTRODUCTION

The Pittsburg, Shawmut, and Northern Railroad was only one of the end results of early efforts to get the products of western Pennsylvania mines and forests to Rochester and the Great Lakes, but the first of its predecessors antedated the two competing roads (Buffalo, Rochester & Pittsburgh, and Western New York and Pennsylvania, via the Genesee Valley Canal R. R.) which were ultimately more successful. The early history of these roads was the usual one of much local enthusiasm, several paper companies, difficulties in raising cash and collecting pledges, a limited amount of construction, failures, and eventual loss of control to New York interests. The latter, having greater resources, were more likely to succeed in constructing a usable road, and eventually to consolidate several weak units into a strong organization. No better case could be found than that of the Shawmut, as will become evident from the following pages.

One of the more curious facts is the apparent competition that may mislead the casual observer, and certainly was not clear to the residents of the locality concerned. This is conveniently illustrated by the situation between Rochester and Olean. The first attempt to provide transportation between the two points took the form of the Genesee Valley Canal, which was constructed at great cost and with much difficulty, and, like all public enterprises of the sort, never paid. The first rail connection proposed. which was to connect Portville with Rochester by way of Nunda and Mt. Morris, traversed difficult terrain and probably would never have been practical. The abandonment of the canal and its availability for a roadbed at low cost, with only one difficult spot around the falls of the Genesee River at Portage (near Nunda), rendered unwise any further consideration of the original route. One

might have expected to find two competing companies, one sponsoring each of the two routes; e.g., the Genesee Valley Canal R. R., Company, and the Rochester, New York and Pennsylvania R. R. Co. However, when the facts are ascertained, it becomes evident that the same New York syndicate of Clark, Post and Martin (later, Post, Martin & Company) was backing each one, in order to eventually have the favorable route, whichever it might be. To accomplish this, without appearing to do so, they employed agents, who individually (George Chapman) or collectively (note the boards of directors) bought, organized, reorganized, and consolidated the various companies involved.

These conclusions receive confirmation by pertinent articles in a contemporary paper, the *Allegany County Republican.* April 29, 1881: This issue contains a considerable amount of facts about the Canal R. R., which, at that moment, appeared to have been abandoned. It seems to have been sold to George Chapman, an agent of Clark, Post and Martin. In the April 22nd issue, it was noted that the latter company had bought the Buffalo, New York and Philadelphia; Olean, Bradford and Warren; McKean and Buffalo; Kendall and Eldred, and land of the Buffalo Coal Company for $4,850,000 (in Bulletin No. 80, p. 67, the sale was taken from Poor's, as "since the close of the fiscal year"). December 2, 1882: "From Mt. Morris to Rochester connections will be made with existing Road till that link of the Canal Road is completed, after which the junction will be at Nunda—both these Roads being built by the same syndicate" and "The entire line remains in control of the Syndicate of New York Bankers that purchased the old roadbed months ago, and which now also own the parallel Canal Line." Other comments of the same nature will be found under the Olean R. R. and the Lackawanna and Pittsburgh R. R.

The first series of railroads terminating in the Rochester, New York and Pennsylvania, and which had a desultory existence for a decade, was stimulated into activity by the discovery of the Allegany (N. Y.) oil field (Bulletin No. 76, p. 41). The older Bradford oil field was traversed by narrow gauge networks under the influence of the two large competing systems, the Erie and the Pennsylvania. The latter instituted an immediate extension of their lines in the form of the Olean Rail Road, followed by acquisition of the Friendship Rail Road, and a projected extension to connect with the Rochester, New York and Pennsylvania, and so reach Rochester, under the name of the Allegany Central Rail Road. These three were soon combined as the second Allegany Central. The next advance was designed to connect the Buffalo, New York & Philadelphia with the Lackawanna, and so afford a new, competing route from New York to the west; this took the form of the first Lackawanna & Pittsburgh. However, the second Allegany Central was literally in the way, so the two were combined as the second Lackawanna and Pittsburgh. From this point, the successive changes in the rail situation are clearly outlined in the text. A moderate increase in revenues was brought about by consolidations with lumber and coal roads in nearby Pennsylvania. The Rochester,

New York and Pennsylvania had originally been planned for just this sort of traffic. Eventually, high operating costs and severe competition resulted in the total abandonment of the entire Shawmut system in 1947. Thus passed another epoch in American railroad history.

The area of northwestern Pennsylvania, comprising Elk, Jefferson, Cameron, and McKean Counties, was very rich in natural resources, among which soft coal and lumber could be had for very little expenditure. Their value, however, could be realized only by getting them out to a market by canal or railroad. The earliest railroad was the Buffalo, Bradford & Pittsburgh (Bulletin No. 76, p. 45). A possible alternative route north was to Rochester, making use of the Genesee Valley Canal from Portville. The easiest way to reach the latter point was to build a railroad. The products of the mines and forests could then be shipped a short way by rail, and after transshipment, could reach Rochester by canal boat.

Northern Railroad and Navigation Company

Accordingly, the Northern Railroad and Navigation Company was incorporated and approved by a Special Act of Pennsylvania, on March 25, 1867 (with supplements on April 10th, and on February 15th, 1872). The termini of the road were Reynoldsville, on the southern boundary of Elk County, and a point on the New York-Pennsylvania state line (probably Mill Grove, New York) in McKean County, near Portville. There was no construction.

First Rochester, Nunda & Pennsylvania Railroad Co.

This company was incorporated on April 9, 1870, under the general laws of the State of New York, to build a 3-ft. gauge railroad from Mt. Morris, in Livingston County, southeast to a point (now Belmont) in the town of Amity, in Allegany County, a distance of 32 miles. Extensions were planned to reach the coal fields of Pennsylvania. The towns along the proposed route were appealed to for money; Birdsall was bonded for $20,000, Nunda and Mt. Morris for $75,000 each, York for $100,000, and Angelica for $65,000. The company expended $100,000 but did no construction work. The money was probably used to pay for engineering and for acquiring land for a right of way. For instance, land for this purpose was deeded by John S. Scholes on August 27, 1872. The station of Scholes, 3 miles south of Birdsall, was named for him.

Rochester, Nunda & Pennsylvania Extension Railroad

This company was organized on January 10, 1872, to build a railroad from a point (Belmont) in the town of Amity to a point on the Southern state line near Mill Grove (in Portville) in Cattarugus County. Mill Grove, one mile south of the village of Portville, was at the head of

navigation for rafts on the Allegheny River; it was also the southern terminus of the 113-mile long Genesee Valley Canal, which extended to Rochester. (The canal was abandoned in 1878, and the canal bed was utilized by the Genesee Valley Canal Railroad Company, a standard gauge line.)

Northern Extension of the Rochester, Nunda and Pennsylvania Railroad

Two days later the Northern Extension was organized, to extend the railroad northward to Rochester, from Mt. Morris.

Second Rochester, Nunda & Pennsylvania

The three previous companies in New York State were merged into The Rochester, Nunda and Pennsylvania Railroad Company on May 17, 1872. The new company had a projected line from Rochester south to Mill Grove, passing through Monroe, Livingston, Allegany, and Cattaraugus Counties.

Third Rochester, Nunda & Pennsylvania

The Rochester, Nunda & Pennsylvania Railroad Company was incorporated on February 22, 1873, by a Special Act of New York State, approving Articles of Consolidation filed on February 14, 1873. Articles of Consolidation of the second Rochester, Nunda and Pennsylvania Railroad Company of New York and the Northern Navigation and Railroad Company of Pennsylvania were filed with the Secretary of the Commonwealth of Pennsylvania on March 31, 1873. They showed a road from Rochester, N. Y., to a point at or near Brookville, in Jefferson County, Pennsylvania. According to Poor's Manual for 1876-7, the southern terminus of the road was Bishop Summit, Pennsylvania, 150 miles south of Rochester. This appears to be an error, although it anticipates by only a few years such a statement as to location. Bishop Summit is a height of land near Clermont, in McKean County, and on the McKean and Buffalo Railroad.

There is some disagreement as to the actual amount of money expended. In the 1876-7 volume, Poor's Manual lists the capital stock as $2,000,000 of which $1,940,000 was subscribed. The same source gives the amount expended as $862,900 and $625,000 paid in; in the following volume the amount expended was given as $853,900. In *A Centennial Memorial History, Allegany and Its People* (1896) it is stated that $925,000 had been paid, $525,000 in cash from subscriptions, and $400,000 in stock of the company, taken at par by the contractors for work done and material furnished. Another source reveals that this company executed 7% bonds to the amount of $4,050,000 and had previously secured stock subscriptions of $1,085,000; $645,000 of the

latter came from towns along the route. Eighteen miles of 3-ft. gauge road were laid in 1872-3 with 56-lb. rail. There was one locomotive and six cars, which were used only for construction purposes.

The president was Alfred Lockart of Angelica; the Secretary was H. H. Seymore, and the treasurer, Charles L. Bingham, of Mt. Morris. The office was at Mt. Morris. In order to ensure traffic for the road, President Lockart purchased about 5,000 acres of coal and timber land in Pennsylvania, on December 25, 1873. Owing to the great business depression at that time, the bonds did not find ready sale. Because of a default in the payment of principal and interest, the mortgage held by the Union Trust Company was foreclosed, and the property, rights and franchise of the portion of the road in New York State, were sold by a referee to George Jerome, Franklin D. Lake and Charles W. Leavitt, representing the bondholders. The sale was confirmed by the court on June 18, 1877. The portion of the road in Pennsylvania was held by the courts to be of no value. The road was then reorganized on June 27th, as the Rochester, Nunda & Pittsburgh Railroad Company.

Rochester, Nunda & Pittsburgh

This company was incorporated on June 27, 1877, a certificate having been filed on that date, resulting from the foreclosure of the first mortgage given by The Rochester, Nunda & Pennsylvania Railroad Company, and reorganization by the bondholders. On page 619 of the *Railroad Gazette* for November 19, 1880, it was noted that "This road was sold at Mt. Morris last week, under a decree of foreclosure, at suit of Charles L. Bingham, Trustee. The road was bought for $3,000 by attorneys for the trustee. The road was sold once before, in 1877, under foreclosure, and a new company then organized. The track is laid from Nunda, New York to Ross' Crossing, 18 miles, but it has never been operated though the rails were laid five years ago. A protest against the legality of the sale was filed by some of the bondholders, who say they will contest it in the courts."

The capital stock was set at $400,000, bonds being issued for this amount and secured by a mortgage dated September 1, 1877, on the completed 18 miles of road; of this, $60,000 was held in reserve, being placed in the hands of a trustee as security against advances of money, etc. No cash was paid in, the stock being treated as paid up because of the bondholders' interest. The company had neither an engineer nor a superintendent. The officers and directors were: President, George Jerome, of Detroit; Secretary, Charles W. Leavitt, of Philadelphia; Treasurer, Charles L. Bingham, of Mt. Morris (see above) and James C. Cochrane, of Rochester, Franklin D. Lake, of Nunda, George M. Osgoodby and G. Guilford Smith (or T. Gilbert Smith), of Buffalo, Simon Simpson, of Detroit, and James C. Wicker, of Genesee.

In the Articles of Association of the Rochester, Nunda & Pittsburgh Railroad Company, the termini were given as Rochester, Monroe County,

N. Y., and a point south of Smethport in McKean County, Pennsylvania. This could be the Bishop Summit, mentioned in the 1876 Poor's Manual. In 1880, it was noted that there were 18 miles of road, laid with 56-lb. rail, between Mt. Morris and Ross Crossing, and that "this company has done nothing further to finish the road." On a contemporary map, Ross Crossing is below Nunda, in the town of Grove, just inside the town line. According to a Central New York and Western timetable, it was 2.09 miles west of Swains and 5.85 miles east of Nunda.

Under a power of sale in the mortgage, the completed portion was sold on October 27, 1880, to James C. Cochrane. On November 26th, he conveyed this segment to William P. Isham. Isham and others then organized the first Rochester, New York and Pennsylvania Railroad Company on February 14, 1881. According to the *Allegany County Republican* for February 18, 1881: "On February 14, 1881 the Articles of Association of the Rochester, New York and Pennsylvania Railroad Company were filed with the Secretary of State, with Wm. B. Isham, H. A. V. Post, Archer N. Martin and Hamilton Odell among the incorporators and Charles Isham, President, and J. D. Reynolds, Secretary. A conveyance was then made to said company by Wm. B. Isham, of the constructed railroad from Mt. Morris to Ross's Junction, such railroad having been sold October 27 by Chas. L. Bingham. . . . Feb. 15th, "meetings of the several boards of directors of the two companies, the R.N. & P.R.R. Co. and the R.N.Y. & P.R.R. Co. were held at the office of Clark, Post & Martin, and an agreement was entered into by them, to merge and consolidate the properties and franchises owned by both Companies, and to form a new corporation. . . . "

The Rochester. Nunda & Pittsburgh Railroad Co. was consolidated with The (first) Rochester, New York and Pennsylvania Railroad Co. on July 11, 1881, to form The (second) Rochester, New York and Pennsylvania Rail Road Company.

The *Railroad Gazette*, on page 500, reported that this road (the Rochester, Nunda & Pittsburgh) "has been sold to a Mr. Chapman, of Columbus, Ohio, who, it is said, will complete the road. The predecessor of this company, the Rochester, Nunda and Pennsylvania, about 1874, built 18 miles of road from the Buffalo Division of the Erie, at Nunda, N. Y. northward to the Dansville and Mt. Morris branch of the Erie, near Mt. Morris, but it has never been operated and must be in a very dilapidated condition by this time." The sale price was $80,000, according to the *Allegany County Republican*. Just exactly what was sold does not seem quite clear, because the completed 18 miles had already been accounted for by sale to Mr. Cochrane; it seems as though it must have been the franchise, right of way, and so forth, of the remainder of the projected railroad.

George D. Chapman was the general manager of the 45-mile Scioto Valley Railroad (Columbus to Chillicothe), in 1876. An account of his activities in Allegany County is given under the second Lackawanna and Pittsburgh Railroad.

In spite of the failure to complete the railroad, the people of Angelica never gave up hope of being on such a road some day . The editor of the *Allegany County Republican* published little squibs in every issue in 1879, rather lengthy articles appearing sometimes. At the end of one, September 19, 1879, he noted that "Angelica had made a most commendable effort for a railroad once, but either through incapacity or rascality in some quarter, the effort was abortive. . . . Can we not raise sufficient money to at least build a road to Belvidere?" Also, in each issue there was a space reserved for the Angelica & Belvidere Narrow Gauge R. R., reading, "Trains will connect at Belvidere when completed." This notice was continued until January 13, 1882, when the Allegany Central was finished.

Second Rochester, New York and Pennsylvania

The Rochester, New York and Pennsylvania Rail Road Co., was formed on July 11, 1881 by a consolidation of the Rochester, Nunda & Pittsburgh and The (first) Rochester, New York and Pennsylvania Railroad Companies, with the following list of officers and directors:

President, Archer N. Martin, of New York; Vice-Pres., Josephus Collett, of Terre Haute, Ind., not a director; Sec-Treas., Charles E. Kimball, of New York, and Charles Isham, Hamilton Odell (not in 1883), Charles C. Pomeroy, Henry A. V. Post, Morgan G. Post, John D. Reynolds, Thomas S. VanVaulkenberg, all of New York, Joseph D. Mitchell and Julius S. Tuck, of Brooklyn, and Frank Sullivan Smith, of Angelica, N. Y. Auditors, which were not directors, were Philip Joyce and William L. Doyle of Buffalo (respective dates not clear). Joyce was also the auditor of the B.N.Y. & P. The official address was 34 Pine Street, New York.

It should be noted that most of the ownership was absentee, presumably members of Clark, Post and Martin, and that several individuals had a strong interest in the Buffalo, New York and Philadelphia and affiliated railway companies, many of which eventually came into the Pennsylvania R.R. system.

Martin was 2nd vice-president of the B.N.Y. & P; vice-president and director of the 2nd Allegany Central; Buffalo, Pittsburgh and Western; president of the 2nd Lackawanna and Pittsburgh, Olean Bradford and Warren, McKean and Buffalo, and Genesee Valley Canal R.R.; and director of both the Buffalo, Cleveland, and Chicago R.R. Companies (which eventually became the Nickel Plate), in New York and Pennsylvania.

Kimball was secretary or secretary-treasurer of both the Allegany Centrals; Buffalo, Cleveland and Chicago; McKean and Buffalo; New England, Lackawanna and Pittsburgh; 2nd Lackawanna and Pittsburgh.

Pomeroy was a director of both Buffalo, Cleveland and Chicago Companies; and both Allegany Central Companies. H. A. V. Post was a director of the Buffalo, Cleveland and Chicago; the 2nd Allegany Central; the 2nd Lackawanna and Pittsburgh; and the Lackawanna and Southwestern. M. G. Post was a director of the 2nd Allegany Central; and an incorporator of the Buffalo, Cleveland and Chicago. Mitchell, Reynolds and Tuck were directors of the Buffalo, Cleveland and Chicago.

Frank Sullivan Smith, a young lawyer of Angelica, soon to become "famous" as the president and receiver of the Pittsburg, Shawmut and Northern, began his railroad career as an attorney of the B.N.Y. & P. He held many offices on the railroads in which we are interested, at various times being president of both Allegany Centrals; the P.S. & N., the Klipnockie; vice-president of the 2nd Lackawanna and Pittsburgh and the Central New York and Western; director of the Clarion River; Lackawanna and Southwestern, Allegheny & Kinzua; counsel of the B.N.Y. & P., 1886, and of some of the other companies. The *Allegany County Republican* for June 8, 1883, noted that "our energetic young townsman, Mr. Frank S. Smith, as Attorney for the Syndicate on this line (the second Allegany Central) proved so excellent an officer, that he was chosen President of this link of their system of Roads in western New York and Pennsylvania—a compliment of high character—the Syndicate being convinced his character and metal, together with his local acquaintance with the line, well qualified him for the position. . . . Gentlemen, Angelica is about to rise from the dead!"

The physical property consisted of 20 miles of completed 3-ft. gauge road, 18 of which, from Mt. Morris to Ross Crossing,* had been constructed in 1872-3. Two additional miles to Swains were subsequently built, and the road graded as far south as Belvidere. In 1880, for a consideration of $25,000, the first Allegany Central purchased from the R.N.Y. & P. "about 23.5 miles of narrow gauge railroad constructed and partly constructed" between Belvidere and Swains. This segment was conveyed to the first Allegany Central by a deed dated October 21, 1881. Apparently, it is by virtue of this sale that the Shawmut, in their Valuation Report to the Interstate Commerce Commission in 1919, claimed the R.N.Y. & P. as one of their predecessors. However, since the Rochester, New York and Pennsylvania did not lose its corporate existence, their claim does not appear warranted. In the chart attached to the Valuation Report the R.N.Y. & P. was recorded sold to the Allegany Central on October 1, 1889. This is a glaring error! The Allegany Central was not even in existence at that time, having disappeared by consolidation into the Lackawanna and Pittsburgh on June 1, 1883. The correct date for the sale of the one segment only was October 21, 1881, as given elsewhere in the report.

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*Also given as Ross Jct., a point on the New York, Lake Erie and Western R. R.

Former Roadbed of R. N. Y. & P. looking west, near Ross Crossing (& Swains) N. Y.
Note old chestnut tie in foreground.

Courtesy S. M. Barney

Allegany Central #4 at Bolivar, N. Y. Baldwin. See Locomotive Roster.

Frank Sullivan Smith

After the previous checkered history, the newly-formed R.N.Y. & P. Company actually took positive action, and rebuilt the 11.75-mile portion between Nunda Jct. and Swains to standard gauge during 1882. The cost of road and equipment is itemized herewith.

Grading and masonry	$39,250.65
Bridges	26,915.50
Superstructure and rails	163,948.63
Station, buildings, fixtures	144.02
Land, land damage, fences	11,505.96
Engineering and agencies	4,885.70
	$248,650.46

In 1882 the Rochester, New York and Pennsylvania was leased to the Buffalo, New York and Philadelphia Ry. Company, at an annual rental of $50.00; this lease was renewed by the succeeding Buffalo, New York and Philadelphia Railroad Company,* on August 10, 1883.

On August 19, 1883, by a tripartite agreement between the Buffalo, New York and Philadelphia, the Rochester, New York and Pennsylvania, and the Lackawanna and Pittsburgh Railroad companies, the segment, Swains to Nunda Jct., was leased to the latter; the lease was abrogated in 1890 when the lessee, by then the second Lackawanna and Southwestern, failed to operate it. Meanwhile the B.N.Y. & P. R.R. Co. was having difficulties of its own, and was reorganized into the Western New York and Pennsylvania Railroad Company in September, 1887; hence, the R.N.Y. & P. was now leased to the latter, who, in turn, subsequently leased the 11.75-mile segment between Nunda Jct. and Swains to the Central New York and Western. The lease does not appear to have been continued by the Pittsburg, Shawmut and Northern, for there were no trains listed in the 1903 employees' timetable. The W.N.Y. & P. finally acquired full ownership of the R.N.Y. & P., on February 28, 1916, and the latter ended its corporate existence. A 2.36-mile segment from the former Nunda Jct. to the village of Nunda is still used by freight trains on the Rochester Branch of the Pennsylvania Railroad.

The R.N.Y. & P. never owned any rolling stock nor was it operated as a unit by itself. In Poor's Manuals and the Railroad Commissioners' Reports to the State of New York, it is always to be found under the Western New York and Pennsylvania (or succeeding P.R.R.) after 1882. For instance, in the 1895 report it is stated that the road is maintained by the Western New York and Pennsylvania, but operated by the Central New York and Western. The road was torn up in 1908.

* The Buffalo, New York and Philadelphia Railroad Co. was formed on February 14, 1883 by a consolidation of the B. N. Y. & P. Co., Olean and Salamanca, Oil City and Chicago, and the Buffalo, Pittsburgh and Western Railroad Companies.

The old roadbed is still visible, although trees have sprung up in many places. Remains of the old ties can still be found (1950), some pieces being large enough so that the wood can be identified as chestnut.

The R.N.Y. & P. originally had a trestle over the Erie at Swains, in order to connect with the L.& S.W., as is evident from a note in the local paper of Oct. 31, 1890, to the effect that the L. & S.W. was contemplating doing away with their own trestle over the Erie and making the connection on the north side of the latter road.

Olean

The Olean Rail Road Co. was chartered on May 2, 1881 to build a railroad, having a gauge of 3 ft., between Olean, in Cattaraugus County, and Allentown; the latter point is about 6 miles east of Bolivar, in Allegany County.

It has not been possible to obtain a list of the officers and directors, nor capitalization of this road, there being no records in the office of the secretary of the Public Service Commission of the State of New York, in the county offices, or in the county histories. However, it appears that Charles S. Cary was president of the Olean road, because, in the *Allegany County Republican* for June 17, 1881, it is noted that he and several of the directors had an important meeting with Col. Archer N. Martin, of Clark, Post & Martin, and J. T. Jones, president of the Buffalo & Pittsburgh R.R. At this meeting the question was discussed as to whether the narrow gauge now building toward Bolivar and Friendship should proceed by means of a third rail, laid on the B.N.Y. & P. track, or build along the banks of the canal between Olean and Portville (the latter plan was eventually followed). The road was to be extended to Friendship, and then north through Angelica to Nunda, and probably to Rochester, over the route surveyed many years before by the Rochester, Nunda & Pittsburgh. "Should this be done . . . it will be the longest continuous line of narrow gauge in the United States. It will extend from Butler, Pennsylvania through . . . Foxburg . . . Clarion, Kane and Bradford to Olean, and from Olean across the State of New York, via Ceres, Bolivar, Friendship, Angelica and Nunda to Rochester . . . the syndicate which has possession of the Genesee Valley Canal, . . . is ready to proceed with work immediately. . . ."

A railroad 18 miles in length was constructed, mostly along the bank of the Allegany River, between Olean and Bolivar. At this point it connected with the contemporary Friendship Railroad (chartered on May 12th). *Allegany County Republican*, August 26, 1881: "The narrow gauge was finished from Olean to Bolivar today, and is the occasion for the opening of the narrow gauge from Friendship to Olean. Bolivar now had three narrow gauge roads, the Tonawanda Valley & Cuba, the Bradford, Eldred and Cuba and the Olean and Friendship."

(The last two apparently considered as one road.) It now seems apparent that this group of roads, the Shawmut predecessors, really belong to the Pennsylvania group of narrow gauge lines, described in Bulletin No. 80, p. 68. It is doubtful that the Olean (like the Friendship Rail Road) was operated except for work trains, until the November consolidation.

The Olean Railroad Company had one engine, No. 1, obtained second-hand, from the Cairo & St. Louis (their No. 9, "Monroe"). It was a 2-6-0, Baldwin Constr. No. 3125 (2-1873), 11 x 16 cyl., 36" diam. drivers.

The Olean Rail Road Company was consolidated on November 21, 1881, with the Friendship and first Allegany Central Rail Road Companies, to form the second Allegany Central Railroad Company.

Friendship Rail Road

The Friendship Rail Road Co. was chartered on May 12th, 1881, to build a 3-ft. gauge line between Friendship and Bolivar, a distance of 11.30 miles.* At the latter point it would connect with the Olean Rail Road, and form a continuous line from Friendship to Olean. The capital stock was set at $109,000, of which $52,500 was paid in; there were 47 holders of 525 shares.

The officers and directors, all of Friendship, were as follows:—President, Asher W. Miner; Vice-Pres., Morris C. Mulkin; Sect'y., Robert A. Scott; Treasurer, Abijah J. Wellman, and Alfred B. Bradley, John C. Drake, Charles L. Howard, Sidney P. Morse, S. McArthur Norton, James Pitts, Jacob O. Price, J. Colvin Reed and Herman Rice.

The discovery of oil near Bolivar induced the people of Friendship to build a railroad to that point, where there would be a connection to Olean and Bradford. In the *Allegany County Republican*, June 10, 1881, it is noted that "Mr. Joseph Gunsall, who came to Angelica from Perry, about ten years ago, where he had been engaged on the Silver Lake Road, to accept a position as superintendent of workmen on the R. N. & P. R. R. through this place, has been secured by Mr. Chapman to superintend the grading of the Narrow Gauge to be built from Friendship to Bolivar, work on which was commenced this Thursday morning."

Mr. Nugent supplied these details about Asher W. Miner, mostly as recollected by his father.

"Asher W. Miner was president of the bank at Friendship, and was the chief promoter of the narrow-gauge Friendship Railroad,

*The mileages given in this account are approximate. The actual distances vary from report to report—some include all track but others only the distance between stations. Some of the variations are probably due to changes in sidetrack.

organized in 1881 to build between that town and Bolivar, where the great oil boom was just getting under way. The railroad was *not* built along the eastern slope of the valley up through Richburg, but on the western slope. It was a couple of miles shorter than the standard gauge line, but the grades were heavier. This, of course, contradicts Mr. Robinson's story (Bul. No. 61, p. 76). The old narrow-gauge right of way can be seen by driving up the West Notch road from Richburg. It is visible the entire distance from Bolivar to the Notch, on the left, or west, side of the highway. Furthermore, Van Campen Creek follows the Cuba-Friendship highway from Cuba Summit to Friendship, not from Nile, as stated by Mr. Robinson.

"A. J. Wellman, a very good friend of Miner's, and a vice-president in the Friendship Bank, succeeded Mr. Miner as president of the railroad when it was combined with the Olean R. R. to form the Allegany Central. Mr. Miner was very wealthy, but was also quite free with his money when situations demanded it. He and Mr. Wellman used to go around to the not-so-fortunate people in the village at Thanksgiving and Christmas time, and if they did not have the money to buy food for the holiday, nor to buy presents for the children, these two men would furnish the necessary groceries and gifts for the occasion. Mr. Miner and Mr. Wellman were always great friends; both of them were far from being poor. and always did such things for the people in the little town.

"The railroad was A. W. Miner's first attempt at investing money in such a construction job as a railroad. He died before the P.S. & N. came into being in 1899, so never lived to see what his little railroad started. He did, however, make money on the little narrow-gauge; the oil boom itself assured that. Of course, soon after the L. & P. was formed the road went bankrupt, but I believe that Mr. Miner had died before then."

With one locomotive and forty cars, data in the first annual report showed that 4104 passengers were carried, with earnings for this service of $1,438.20. Freight trains ran 915 miles, from which was realized the sum of $1,811.97. With expenditures of $1,584.61, there was left a neat surplus of $1,665.56.

The Friendship Rail Road, along with the Olean and the first Allegany Central, was consolidated into the second Allegany Central Railroad Co. on Nov. 21, 1881.

The single locomotive owned by the Friendship was a newly-built Mason tank (6-1881, Constr. No. 652, 10 x 16 cylinders, 42″ drivers). The wheel arrangement, not stated, could have been an 0-4-4 or a 2-4-4; the former seems more likely from the cylinder size. It was named for the president, "A. W. Miner." It became Allegany Central No. 1 or 2 after the consolidation.

First Allegany Central

The first Allegany Central Rail Road Co. was chartered on Sept. 29, 1881, with a capital stock of $100,000, to build a narrow gauge railroad from Friendship to Swains, about 31 miles. Only $32,000 of the stock was subscribed.

The officers and directors were as follows:

President, Frank Sullivan Smith, of Angelica; Vice-Pres., Archer N. Martin, of Summit, N. J., Sec-Treas., Charles E. Kimball, of New York, and Mitchell S. Blair and George Lockhart, of Angelica, N. B. Bradley and Abijah J. Wellman, of Friendship, R. P. Hobart, John W. Gilbough, Geo. W. Nichols, H. P. Parke, Lawrence T. Paul and Charles C. Pomeroy, all of New York.

Since most of these names never appear again it seems likely that they belonged to clerks in the Wall St. offices of Martin, *et al.*

According to the corporate history of the Pittsburg, Shawmut and Northern Railroad Co., prepared for the Interstate Commerce Commission for valuation (6-30-1919), this first Allegany Central bought 23.5 miles of constructed or partly constructed narrow gauge railroad extending from Belvidere to Swains from The Rochester, New York and Pennsylvania Railroad Co. The deed was dated Oct. 21, 1881, and the purchase price was $25,000.00.

This company, along with the Olean and the Friendship Railroad Cos. was consolidated into the second Allegany Central Railroad Co. on Nov. 21. 1881.

The name of Frank Sullivan Smith was looked upon with pride by the residents of Angelica, from the earliest days when he was president of the first Allegany Central Rail Road Company. A partial biography has been given in Bulletin No. 78, p. 82. In addition it is of interest to note that his father was the first medical doctor for the area, making his calls on horseback; after his death it was found that his estate included many farm mortgages. Frank Sullivan Smith became a corporation lawyer; his activity was not only in railroads but also in businesses in the midwest and south. He was identified with the Seligman interests of Buffalo, New York and Philadelphia; he was a member of many clubs and social organizations. He left an estate of perhaps $500,000. His widow, Clara Alzina Hapgood Higgins Smith, a sister of Frank W. Higgins of Olean, New York (who was a governor of the State of New York), died on March 15, 1934, leaving an estate of $4,621,045. She willed the Rochester, Hornellsville & Lackawanna Railroad, which had been privately owned by Frank Sullivan Smith, to the American Red Cross; the Red Cross received an annual rental of $3,000 for this until the abandonment in 1947, when, except for the short spur tracks sold to the Erie, and serving Hornell industries, it was sold for dismantling.

Second Allegany Central

The second Allegany Central Railroad Company was chartered on November 21, 1881, with a capital stock of $100,000, all of which was paid in; there were 10,000 shares of stock and 48 stockholders. This road was formed by a consolidation of the Olean, Friendship, and first Allegany Central railroads. It extended from Olean to Swains, 57.89 miles, and had a gauge of 3 ft.

The officers and directors were as follows:

President, Frank Sullivan Smith, of Angelica; Vice-Pres., Archer N. Martin, of Summit, N. J., Sec-Treas., Chas. E. Kimball, of New York; Auditor, Mitchell S. Blair, of Angelica, and Mills W. Barse and Frank W. Higgins, of Olean, Frank Jenkins, Chas. C. Pomeroy, H. A. V. Post and Morgan G. Post, all of New York, A. G. Learned, of Summit, N. J., Asher W. Miner and Abijah J. Wellman of Friendship.

The general superintendent was William O. Chapman, and his brother, George D., was the engineer. Mills W. Barse, the son of the prominent citizen of Olean, C. V. B. Barse, was the cashier and subsequently the president of his father's bank. He was also vice-president and director of the Allegheny & Kinzua Railway.

Inside information on the construction of the Allegany Central is given by the editor of the *Alleghany County Republican*, for December 2, 1881, in these words:

"A road was built from Friendship, on the Erie, south to Richburg.

"An Olean Company built a road to Richburg.

"These two Roads Mr. Chapman superintended the building of.

"When completed they were consolidated, and trains run from Friendship to Olean.

"Work was then commenced on our old graded roadbed, which is today ready for the ties and iron from Friendship through Angelica and ten miles northwest of us, where 300 men are now hard at work fixing up the old grade, and expect to have the job finished through to Swains station on the Buffalo Division of the Erie, in 30 days. From that point northwest to Nunda and Mt. Morris, as all know, the iron was laid years ago, and that link has already been put in running order.

"TRACK-LAYING TOWARDS ANGELICA was commenced at Friendship on Tuesday of this week, one mile being laid by Wednesday night, and will be continued at the rate of about one mile a day.

"The road crosses the Erie about one mile this side of Friendship, going over on trestle work 1600 feet long, and passes by Belvidere a mile to the west, on west side of the river, which it crosses south of Transit Bridge, near the Charles farm; thence to Angelica and northward on the old grade.

"It is the intention to have the Road running from Angelica to Olean, south, by Christmas, and from Angelica north to Rochester, by January 15.

"We would here state that the Angelica Division was recently reorganized and re-named the "Allegany Central R.R." and the Friendship and Olean Division consolidated therewith, and the entire line is now known by that name."

The extension of the Allegany Central from Friendship to Angelica was completed on January 9, 1882, at 3 P. M. At 6:17 P. M. the first train, an engine and two cars, left for Friendship. In spite of the newness, there were no accidents or mishaps. There was great rejoicing in Angelica—at last the village was on a railroad! A headline in very heavy type reading "Angelica Redeemed" extended across the top of pages two and three of the *Allegany County Republican*. This was followed by praise of George D. Chapman and considerable flowery stuff, barely mentioning the predecessor roads that had never been built. Seven trains were scheduled each way daily. There were seven locomotives and 141 cars (7 passenger, 3 baggage, mail and express, 19 box, 3 stock, 84 flat, 22 coal and 3 service).

Allegany County Republican, May 26, 1882: "Gen'l. Pass. Agt. P. W. Coyle has issued a circular more particularly directed to the oil producers, in which it is remarked: 'To our numerous patrons who have borne with us in our efforts to surmount the difficulties incident to operating a new railroad, and to the public generally, we are pleased to announce that from this date the Allegany Central R.R. will run THROUGH COACHES between Richburg and Bradford daily, on trains Nos. 1, 4 and 6, and between Richburg and Kinzua daily on train 3, making no change of cars between the Allegany oil field and Bradford, and but one change (at Kinzua) between Richburg and Oil City.'

"The new link of railroad just completed in Pennsylvania by the syndicate which owns our road is called the Bradford and Oil City Short Line. Running in connection with our road it gives us an opportunity to visit with ease the entire oil country region, . . ."

Allegany County Republican, September 22, 1882: "*The Mt. Morris Enterprises* says, 'Some time next week the Canal road will run trains from Mt. Morris to Rochester. The trains from this place to Swains will be abandoned in a few days, as the officers of the Road say it does not pay.' "

Construction of the narrow gauge was continued north towards Swains, being opened on June 16th, but even at this time plans must have been quietly under way to make this section standard width, for reports on the "broad gauge" segments between Belfast and Angelica, and Swains to Perkinsville appeared in the current newspaper. The widening was begun about March 1, 1883, but proceeded very slowly. On May 4th the *Allegany County Republican* noted "The Italians are here!—over 100 of them—and more coming daily." "The broad gauge will be rushed." This conversion to standard gauge was finished under the succeeding Lackawanna & Pittsburgh. On May 25th, a rumor was printed to the effect that Jay Gould was behind a plan to arrange for

competition with the Pennsylvania Railroad. The Allegany Central and Delaware, Lackawanna and Western were to be consolidated, and a line to Newcastle, Pennsylvania, over the Buffalo, New York and Philadelphia via Olean and Salamanca, would give connections to the west!

From the report for 1882 it may be noted that the road carried 178,977 passengers, who paid $83,241.41 for the ride, and carried 38,485 tons of freight, for which service they received $52,136.82. After deducting other charges, the surplus was $8,481.76.

The speed of trains on the Allegany Central cannot have been phenomenal, as shown by this item: "As the morning train left Angelica last week, the express messenger's dog, whose mistress was also aboard the train, started after it, following the train for over five miles, and keeping the train in sight most of the time. Finally the conductor's attention was called to the labored efforts of the persistent little animal, and he stopped the train and took the nearly played-out litt'e doggie on board," 3-30-83. Patsy O'Keefe held the speed record on the Allegany Central from Bolivar to Angelica (18 miles) on a narrow gauge locomotive in 38 minutes, and from Angelica to Wayland (36 miles) in 52 minutes.

An old employee, H. S. Dunn, when on the Shawmut in 1901, reminisced to this effect: the first month that the "yard wide" ran from Friendship to Richburg, they did $12,000 worth of business at the former station, a narrow gauge boxcar. Those were the oil boom days: baggage was piled up out of doors in the rain and snow and no one ever thought of kicking. A dinky train ran every ten minutes between Bolivar and Richburg, and passengers were obliged to ride on flat cars, and were glad they were alive.

Information on the seven Allegany Central locomotives is neither complete nor satisfactory. A roster of Shawmut motive power (Bulletin No. 61, p. 86), compiled by a Mr. McCullough, superintendent of motive power, listed seven narrow gauge engines. Since all old records were stated to have been destroyed in a fire, it is not known what data he used. The reports of the inspectors of the State of New York record only two narrow gauge engines on the Shawmut in 1899-1901. In Bulletin No. 61, it was stated that all were new. Charlie Lyons of Angelica, a former Lackawanna and Pittsburgh employee who is still living (age 86, 1951) stated very positively that the only new one was the "A. W. Miner," Friendship No. 1.

These engines will now be considered individually. The first three are well scrambled. Mr. Lyons feels sure that the "A. W. Miner" was L. & P. No. 1, hence A. C. No. 1. From the records it is clear that the "A. W. Miner" was a Mason, so Mr. Lyons may be in error. Lyons recalled that there was also a tank engine, which would correspond to Mr. McCullough's Mason, A. C. No. 2. He did not remember any Olean No. 1, but it might have been the A. C. No. 3, which he said was

an old engine, and a "Jonah," always in some sort of operating trouble. The picture of an A. C. R. R. "S. C. Dorsey," No. 3, shown on page 78 of Bulletin No. 61 appears to be an error; the name, Dorsey, has never turned up in any Allegany Central connection. There was a narrow gauge Arkansas Central, with an official, S. W. Dorsey, which leads one to believe that the picture is really that of Arkansas Central No. 3.

Mr. Lyons was sure that No. 4 was a Brooks, but from the picture (Bulletin No. 61, p. 78) it appears to be a Baldwin. Since it is not in the records of the latter company, it must have been obtained second-hand. Mr. Wood searched carefully, finding only one engine of the approximate date: 4-4-0 Constr. No. 5439; built 1-1881, as Chester & Lenoir No. 4, "Holmes Hardin"; 11 x 16; 42". (The C & L became a part of the Carolina and Northwestern.) This engine later went to the J. W. Truitt Company; it possibly drifted to the Allegany Central, retaining the same number. An alternative possibility is that it was Olean, Bradford and Warren, No. 4, for the same reason as given below under No. 7. These four engines, Nos. 1-4, are presumably the four on hand on February 17, 1882, as noted in a contemporary paper; numbers 1-3 had disappeared by 1886.

The two Baldwin moguls, Nos. 5 and 6, have been more fully traced. They remained on the succeeding roads, No. 5 even on the Shawmut; No. 6, however, was lost sight of after the Lackawanna and Southwestern, probably being scrapped under the Central New York and Western. Mr. Lyons said that the front end of No. 6 was converted into a stove for one of the Angelica shops. He said also that No. 5 was the last one to be used in service.

The origin of No. 7 is obscure—its existence was considered problematical until it was found mentioned by number in the contemporary newspaper. Mr. Lyons subsequently said that it was an old Brooks, and a Mogul. The author suggests the very likely possibility that it was formerly Olean, Bradford, and Warren No. 7 for several reasons: (1) The make and wheel arrangement agree. (2) The O.B. & W. "bought" four engines from the Kendall & Eldred, which they wouldn't have needed unless they had disposed of some of their older engines. The heyday of the K. & E. was over by 1882. (3) The New York firm of Post, Martin & Co. controlled both railroads, so could transfer an engine from the O.B. & W. to the A. C. just as easily as they moved the K. & E. engines. (4) Engine numbers were retained on transfer in many instances—certainly throughout the predecessors of the Shawmut. (5) After noting these four points Mr. Lyons stated that the Allegany Central had leased O.B. & W. No. 7 for use in constructing the road, but he didn't *know* whether or not it had been returned.

There used to be a quicksand hole on a sharp curve near the (West) Notch; it caused the track to tilt unless worked on almost daily. Very frequently the little narrow gauge engine would jump the track there because of the soft fill. Everyone would then get out, help put the engine back on the track again, after which all would continue on their way.

Allegany Central Locomotives

No.	Builder	C/N	Date	Type	Cyls.	DD	Notes
1				4-4-0			
2	Mason	652	6-18881	2-4-4T	10x16	42	A
3?	Baldwin	3125	2-1873	2-6-0	11x16	36	B
4	Baldwin	5439	1881	4-4-0	11x16	42	C, D
	or						
	Baldwin	4273	2-1878	4-4-0	12x16	40	C, D, E
5	Baldwin	5975	12-1881	2-6-0	14x20	45	D, F
6	Baldwin	5979	12-1881	2-6-0	14x20	37	G
7	Brooks	349?	1-1879	2-6-0	12x18	36	G, H

The scrapping dates given in Bulletin No. 61 are mostly incorrect.

A. ex-Friendship No. 1, "A. W. Miner".
B. ex-Cairo & St. Louis No. 9, "Monroe"; ex-Olean No. 1?
C. Photo in Bulletin No. 61, p. 78; scrapped about 1901.
D. Retained same number on L. & S.W., C.N.Y. & W., and P.S. & N.
E. ex-O.B. & W. No. 4.
F. Sold to DeSoto Foundry Machine Company, after 1901.
G. Retained same number on L. & P., and L. & S.W.. scrapped by latter (?).
H. ex-Olean, Bradford & Warren No. 7?

First Lackawanna & Pittsburgh

In order to have a competing line from New York City to the west, the same syndicate that was back of these other roads planned to build a connection from the Lackawanna (D. L. & W.) to their own Buffalo, New York and Philadelphia. As related in the October 27, 1882 issue of the *Allegany County Republican* "As is now quite generally known, the Syndicate of princely bankers which now own a network of railways in Western New York and Pennsylvania, and which built the Canal Road have caused a survey to be made for a STANDARD GAUGE Road, from Belfast to Hornellsville. The survey from Belfast to Angelica is completed, and a preliminary line has been run from here to Hornellsville, via West Almond. It is talked the purpose is to build this link and extend it eastward from Hornellsville to a connection with the new Lackawanna road, thus giving a direct western connection via the Canal Road, junction being made at Belfast and at Olean with western links in progress." And on November 10, 1882, "Our syndicate recently filed incorporation papers to build a link of 21 miles between Olean and Salamanca, connecting at the latter place with their Pittsburg road. Also to build another standard gauge link 42 miles from Perkinsville on the new Lackawanna road, northeast to Hornellsville, running thence westward through West Almond, Angelica and to Rockville Station on the new Genesee Valley Road, owned by the same Syndicate —below Belfast. With these two links completed the Lackawanna will have a through line to Pittsburg." And on November 7, 1882; the *Canaseraga Times* says: "A party of eight engineers are engaged in making a preliminary survey from Swains to Hornellsville for the Lackawanna & Pittsburg railway. The route as far as made runs on a parallel line with the Erie."

On March 9, 1883, the *Allegany County Republican* ran a long article on the broad gauge roads and projected through routes from New York to St. Louis, via the Lackawanna & Pittsburgh, which was a natural link with easiest grades. " . . . it is proposed to complete this road in such a manner as to assure its efficiency for the very heavy traffic, which is already assured by contract, over this connecting link."

"As a portion of the natural line of the Lackawanna and Pittsburgh Railroad would otherwise be interfered with by the Allegany Central Railroad, it has been decided to consolidate the two roads, so that the Lackawanna and Pittsburgh will have also the large and valuable traffic of the Allegany Central Railroad into and through the Allegany and Bradford oil fields." By the terms of the contract all freight in both directions between B. N. Y. & P. and D. L. & W. was to pass over the L. & P.

The first Lackawanna & Pittsburgh Railroad Company was organized by interests back of the Allegany Central and was chartered on January 1, 1882, to build a standard gauge road from a point on the Buffalo, New York and Philadelphia, about one mile south of Belfast (Rockville), to the New York, Lackawanna and Western, in Perkinsville, 41 miles, with a 17-mile branch to Hornell and Canisteo (all three points in Steuben County). Capt. Robinson (Bull. 61, p. 72) calls the junction point Belfast Jct., and notes that it was on the Genesee Valley Canal R. R., which had been built a few years previously and leased to the B. N. Y. & P. He likewise gives the modern name of Wayland Jct. to the connection in Perkinsville with the N. Y. L. & W., but confuses the first and second L. & P. R. R. Cos.; all construction was done by the second company.

The secretary of the Public Service Commission of the State of New York states that this road never filed a report, and that he does not have a list of the officers and directors. Neither are there any records in the offices of the County Clerk, nor in the county histories.

The (second) Allegany Central and the (first) Lackawanna & Pittsburgh Railroad companies were consolidated to form The (second) Lackawanna and Pittsburgh Railroad Co., on June 1, 1883.

New England, Lackawanna and Pittsburgh

Articles of Association for the New England, Lackawanna and Pittsburgh Railroad Co. were filed on March 28, 1883, with a capital stock of $2,000,000. The railroad was to start at Wolcott, in Wayne County (near Lake Ontario), and run southwest via Geneva, through the counties of Wayne, Seneca, Ontario, Yates and Steuben, and end at a point on the New York, Lackawanna and Western near Perkinsville, a distance of about 70 miles.

The Secretary of the Public Service Commission of the State of New York states that there is no list of officers and directors available, other than the secretary, Charles E. Kimball of New York City. Mr. Kimball was the secretary-treasurer of the several closely-related railroad companies, viz., Rochester, New York and Pennsylvania (1881),

first and second Allegany Centrals, and second Lackawanna and Pittsburgh. It seems obvious that the group of men behind these associated companies were determined to build a line through to Lake Ontario, and to compete with the Genesee Valley Canal R. R. Co. between Olean and Rochester.

A statement from the secretary, dated December 19, 1883, indicates that the charter of this railroad was abandoned. It may be assumed that the reason for this was the organization of the Pittsburgh, Lackawanna and Northeastern just eight days later (December 27th).

Work was proceeding on this Naples-Geneva extension, for the *Allegany County Republican* for July 20, 1883, notes that "Our readers are aware that it is proposed to build a line eastward from Perkinsville to Naples, about ten miles, and northerly from that point to Geneva on an old graded roadbed. . . . in speaking of this work the *Neapolitan* says that 'Chief Engineer Peter, and Auditor Blair of Angelica, were here Monday to supervise the work and pay off the men. The engineers are still on this line between the village and the summit. Labors nearly completed. The gang of men are now at work in the town of Middlesex. About $1,000 a week is being expended here.' "

Hornellsville and Cohocton Valley

The residents of Hornellsville, which was on the Erie Railroad, were very desirous of securing an outlet to the north, and, probably, to get reduced rates by the introduction of competition. The logical choice was to build a connection to the Lackawanna. Apparently there was little hope that the first Lackawanna & Pittsburgh would exercise their rights and build the 13-mile extension south to Hornellsville as authorized in their charter of Jan. 1, 1882. Their first attempt took the form of the Hornellsville and Cohocton Valley which would make a connection near Bath. When this plan proved inadvisable, a delay was inevitable; by 1886, however, plans for the Rochester, Hornellsville and Lackawanna had been consummated, and after some initial delays due to litigation, the northward connection was made.

The Hornellsville and Cohocton Valley Railroad Co. was organized on July 28, 1882, with a capital stock of $160,000, to build a line, 19.45 miles in length, from Hornellsville to the New York, Lackawanna and Western R. R., in Avoca, N. Y. There were 95 stockholders, who subscribed $62,500 but paid in only $650. The officers and directors, all of Hornellsville unless otherwise noted, were as follows: President, Francis G. Babcock; V. P., Charles Hartshorn; Sec'y, Irvin W. Near; Treas., Charles Adsit, Ira Davenport, of Bath, Abel R. Higgins and Aaron McConnell, of Howard, Harlo Hakes, Alexander Jones, Benton McConnell, John McDougall, Esek Page and Franklin D. Sherwood. The engineer was John S. Schaeffer, of Hornellsville.

This paper road had a short life, which is adequately summarized by the following statement taken from the president's report to the railroad commissioners of New York in 1883. "The Hornellsville and Cohocton Valley Railroad Co., under their charter, went on and made

a preliminary survey from Hornellsville to a point on the D., L. and W. R. R., near Bath, with a view of constructing the road, but the surveys and leveling demonstrated that the grade was too heavy to be at all practical for a freight road, for which it was desired, and consequently the road has been abandoned virtually, and the ten per cent paid at the outset has been distributed among all the shareholders, and consequently the project has been substantially abandoned, and I, of course, have no report to make further than the above." Quite a sentence!

Second Lackawanna and Pittsburgh

The Lackawanna and Pittsburgh Railroad Co. was formed on June 1, 1883, by a consolidation of the first Lackawanna & Pittsburgh and the second Allegany Central Railroad Cos. The *Allegany County Republican* noted "on today—Friday, June 1st, the Allegany Central Rail Road receives a new name, and will henceforth be called 'The Lackawanna & Pittsburgh.'" "It will run trains connecting for Rochester." There were 10,000 shares, all paid in, of capital stock, set at $1,000,000.

The officers and directors were as follows: President, Archer N. Martin of New York; 1st V. P., Frank Sullivan Smith, 2nd V. P., Frank Jenkins, of New York; Sec-Treas., C. E. Kimball, of New York, Mitchell S. Blair and George D. Chapman (Pres. in 1884) both of Angelica, J. N. Borland, Jr., Frank N. Larcher (added in 1884), Henry A. V. Post, Oliver Watson and Cyrus H. Witherbee, all of New York, and Asher W. Miner and Abijah J. Wellman, of Friendship.

The new company owned and operated 45 miles of standard gauge road between Belfast Jct. and Perkinsville, and 42 miles of 3-ft. gauge road between Olean and Angelica, all single track. It also leased and operated the Rochester, New York and Pennsylvania Railroad, which extended from Swains to Nunda Jct., a distance of 11.78 miles; this afforded a connection to the city of Rochester. It had trackage rights over the Buffalo, New York and Philadelphia, from B. N. Y. & P. Jct. to Olean, and over the New York, Lackawanna & Western, from the end of the line in Perkinsville, to Wayland.

The road from Swains, east to Lackawanna Jct., was built with standard gauge, as was that from Belfast Jct. to Angelica. Wescott, Ames and Blake Bros. subcontracted for all the work, including the big (700 ft. long) bridge at Stony Brook, which cost about $75,000. The bridge was actually built by the Delaware Bridge Co. of Trenton, N. J. The line from Angelica to the Genesee River was subcontracted to G. S. Granger, of Wayland, while from across the river to B. N. Y. & P. Jct.,* south of Belfast, a subcontract was taken by Norman VanNostrand, of Olean. A great many oak ties must have been used, because in a subsequent inspection it was noted that these proved unsatisfactory, decaying at the heart while leaving an apparently sound

* The road was built to this point, which was several miles north of Rockville, the terminus mentioned in the charter.

surface. The ties were laid 2600 per mile. All switches were stub. The large stone piers near the Genesee River crossing stood for many years (see pictures) until torn down to get the stone for building, some of the abutments near Belfast can still be seen. When the road was completed there were six Howe truss bridges as follows: over the Genesee River (124 ft. long), costing $20,000; Black Creek (64); White Creek (54); Angelica Creek (96); Canaseraga Creek (78); crossing over the Erie RR. north of Friendship (78, not counting the long trestle). The depots were built by White and Bennett, and were at Belfast, Angelica, Canaseraga, Stone Brook, Rogers Mills, and Perkinsville. The construction must have been of the highest quality, because in the 1883 report of the state inspectors it was noted that the surface and lines "are commendable for their excellent condition."

Starting with the April 27, 1883 issue, the editor of the *Allegany County Republican* had plenty to write about, as the new standard gauge was laid from Perkinsville to Belfast, and the narrow gauge widened between Angelica and Swains. He called it the "broad gauge" (contrast with narrow gauge, and not the Erie's width). Messrs. Wescott, Ames and Blake Bros. contracted for the work and ground was broken on Geo. Babcock's farm in Canaseraga, with 300 men now at work. Chief Engineer Peter informs us he expects to see standard gauge locomotives in Angelica within 60 days"—an optimist! "The work of clearing and grading from the point about one mile south of Angelica, where the standard gauge leaves the present narrow gauge roadbed, has been subcontracted to G. S. Granger, of Wayland, whose work must be finished by July 1.

"As before stated, the road is to be built in a most substantial manner throughout, 65-pound steel rail being laid on best quality of ties placed on solid roadbed. The bridge at Stony Brook Glen will rival the famous Portage bridge of the Erie and will cost about $90,000. The Howe Truss bridge over the Genesee at Belfast will cost about $20,000 . . . "

And on June 8th, "At the present time about 400 men and 100 teams are at work on the line . . . Between Angelica and Swains, the contractors Messrs. Warren and Hunter have a force at work preparing for the early conversion of our narrow gauge into a standard gauge, and the broad gauge ties are already laid from Garwood's to Swain's."

"To date, six locomotives have been purchased, from the Mason locomotive works, Baltimore (*sic*), and they are now in the Olean shops ready for use. Four of them are what is known as the 'consolidation' engines, being the most powerful made, capable of drawing 80 loaded freight cars each, over ordinary grades, at 40 miles per hour. (The editor is incorrect; there were never any Mason engines or 2-8-0's on the L. & P.)

"One hundred fifty box cars have been bought and 59 gondola cars for the use of trainmen on freight trains. These are from the Lima, Ohio Car Shops. . . .

"The plan of numbering the Italian laborers working on the line, works 'to a charm.' Finding it impossible to keep track of the men by their jaw-breaking names, the contractors concluded to number them, as is done on the West Shore road. The number of each Italian is therefore painted in plain figures on the seat of his trousers. Before beginning work in the morning, at noon, and on stopping at night the men are formed in line and the foreman passes in rear of them and takes down each number, in order to ascertain who is present as well as who is absent. The plan is beneficial in two ways— the men are easily recognized and they are kept from sitting down too much from fear of rubbing out the numbers and thus losing their identity!—and proper credit on the payroll."

New York Railroad Commissioners' Report for 1883:

"The original organizations embraced in that of the Lackawanna and Pittsburgh Company are the Olean Railroad Company, Olean to Bolivar, 18 mi., the Friendship Railroad Co., Bolivar to Friendship, 11.30 mi., and the Allegany Central Railroad Co., from Friendship to Swains, 28.60 mi., all single track, 3 ft. gauge roads. The Lackawanna and Pittsburgh Co. was organized to construct a standard gauge line from a point one mile south of Belfast on the Genesee Valley Canal R. R. to Angelica, 6.5 mi. The widening of the Allegany Central between Angelica and Swains, and the construction of a road from Swains to Perkinsville, a distance of 17 mi., forming at the latter place a junction with the New York, Lackawanna and Western road, all of which is now accomplished, and the road will soon be in operation. This connection is 56¾ mi. in length. The narrow gauge division, from Olean to Angelica, is about 40 mi. The Lackawanna and Pittsburgh also operate the Rochester, New York and Pennsylvania railroad, which extends from Swains to Nunda Jct. on the Genesee Valley Canal R. R., a distance of 15 mi., making a total of standard gauge lines of 56¾ mi., and of a narrow gauge, 40 mi., and all merged into the Lackawanna and Pittsburgh Railroad Co. The narrow gauge division has been in operation about 2 yrs. and is generally well built. Right of way 33-50 ft. wide, fenced entirely with barbed wire, four strands, and roadway very neat and partially free from uncut weeds. Roadbed good width, and well ditched and ballasted with clean gravel. Ties mostly hemlock, and distributed at the rate of 3000 per mi., rail all iron, 35 lb. per yard except on the 125 ft. grade south of Notch summit, there is 3 miles of 40-lb. steel. All the narrow gauge equipment is new, in good order, and supplied with the latest approved appliances. The surface and lines of this narrow gauge are commendable for their excellent condition. The bridges are generally sufficient in construction for a standard gauge road, and all openings supplied with the best flooring. Trestles on curved line are provided with inside guard rails of iron, and all sharp curves as well, with the addition of braces on the outside of the rails. Every precaution appears to have been taken to protect against accident from derailment. The maximum curvature is 14°. Stub switches in general use. The highway crossings were none of

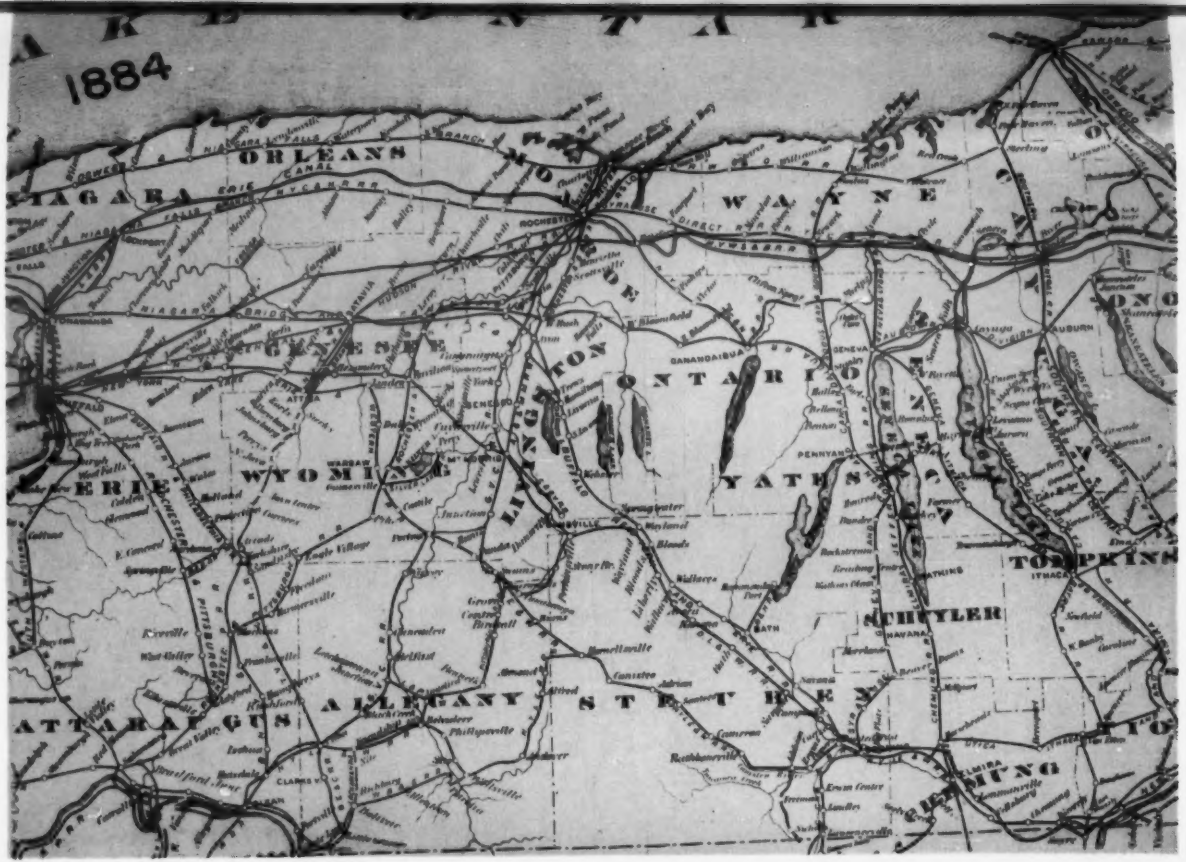
them in place, but have subsequently been erected. There is one low overhead bridge that should have warnings provided. The standard gauge division, not being fully completed, no particular examination was necessary, nor could well be made. The rail is steel, well tied, and, so far as completed, very thoroughly ballasted. The road between Swains and Nunda has recently been entirely rebuilt. The station buildings are of reasonable size, mostly new, conveniently furnished, and comfortable for public use. They were also found quite neat, and clean floors, windows and walls were noticeable."

The widening of the narrow gauge between Angelica and Swains, done under contractors Warren and Hunter, involved grading of the roadbed along one side, installing longer ties, and laying a third rail outside the narrow gauge; actual rail-laying began at Birdsall on July 31, 1883; all the rail had been laid by Aug. 31st. The narrow gauge ended about a mile below the Angelica station, to reach the latter a third rail was laid from the "junction." The "broad gauge" between Angelica and Swains was completed "last week" according to the Nov. 23rd *Allegany County Republican,* yet the same paper stated that the first wide gauge train arrived on Nov. 15th! Perhaps this was a misprint, because the *Angelica Advocate* for Nov. 19, 1903, reads: "Looking back twenty years ago today the first standard gauge train ran into Angelica and in his issue of the *Republican* the day after Mr. Raymond had the following article: 'After a delay longer than expected the work of broadening our narrow gauge from Angelica northward to Swains was completed Thursday of this week, and the first broad gauge train ever in Angelica arrived at noon on that day and was received with considerable demonstration.

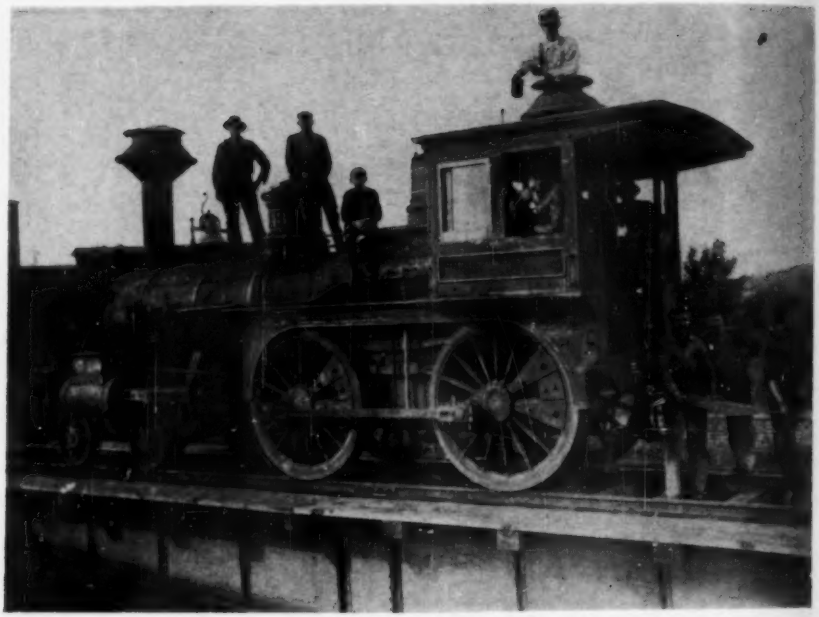
" 'As our readers are well aware the link from Swains northwesterly to Nunda where the junction with the Canal road is made—a distance of some ten miles—has always been standard gauge so that we now have a regular standard gauge from Angelica to Rochester, via the Canal R. R. from Nunda Junction. The work is progressing well on the extension east and west, but cars will not run before spring from Perkinsville to Belfast, and it is not till this through line is opened that we propose a barbecue demonstration.' "

The Lackawanna and Pittsburgh had seven 3-ft. gauge locomotives in 1883, presumably inherited from the Allegany Central: "one (20 tons) is a switcher; four (18 tons) are passenger, while two (20 tons) are freight. There are two engine houses having a total of three stalls. There are eleven passenger cars, five of which are first class. Of the 127 8-wheeled freight cars, 19 are box, 83 flat, 3 cattle, and 22 coal; there are two 4-wheeled cabooses. Six of the engines and all of the cars are leased. The trains will run at an average rate of 16 miles per hour, including stops, or 18 miles per hour without stops;" the highest rate was 20 miles per hour. No parlor cars or sleepers were operated over the line. Express business was handled by the American Express Co.

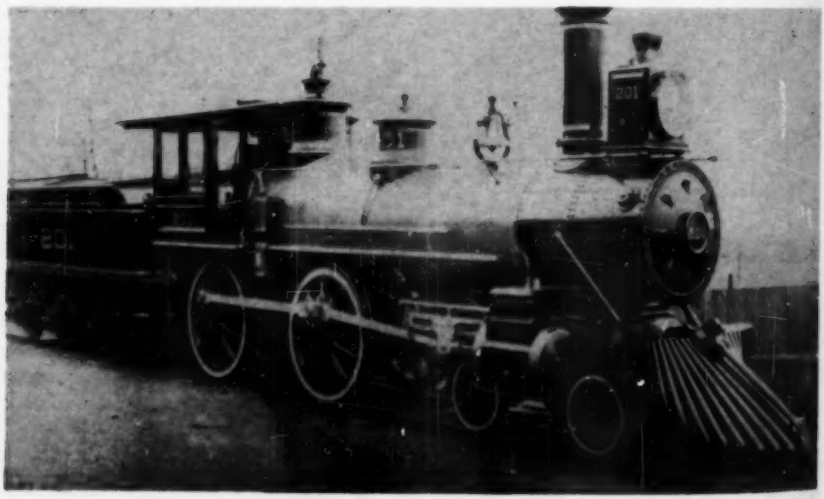
One hundred and twenty employees received $65,328.20 for their services. There were moved 31,183 tons of freight, at 5.37c per ton



Railroads of Western New York, 1884. Shows Lackawanna and Pittsburgh,



C. N. Y. & W. #43. See L & P roster notes.



L & P #201. Listed as Rome, 1883.

Courtesy C. O. Guy

mile, and 104,520 passengers were carried (too low a ratio of freight). The total earnings were $88,629.49, which, with expenses of $138,728.47, left a deficit of $50,098.98. This was reduced to $39,645.48 by the previous surplus of $10,453.80. The deficit was attributed to the loss of traffic occasioned by the widening of the narrow gauge, which began about March 1st.

A glance at a contemporary timetable, printed in the *Allegany County Republican*, reveals that, on Feb. 12th, there were scheduled two trains daily between Swains and Olean, and one train each way between Richburg and Olean, Friendship and Olean, Swains and Friendship, and Swains and Richburg. A Sunday special ran between Richburg and Olean, connecting for Bradford, Pa. The conductors were Barker, Corwin, Dennison, and King.

Certain details of the right of way are of interest. The steepest grade is 52.8 ft. per mile, at Stony Brook Glen. The maximum curvature of the standard gauge is 6°, and is west of the Glen; it is 14° on the narrow gauge. There are one iron (Stony Brook viaduct) and 18 wooden bridges, and 134 wooden trestles. The principal trestle is No. 51, a horseshoe at Swains, which is on an 8° curve; it consists of 46 bays on the south side, a wooden Howe truss bridge over the New York, Lake Erie and Western, and 64 bays on the north side. The total length is 1850 ft., and the height is 20 ft. Next south is a 51-bay trestle, next a 30-bay trestle 60 ft. high with 10-ft. centers on spans. There are also two more between Swains and Angelica; one has 80 8-ft. bays and is 60 ft. high, while the second has 50 bays. There is a Howe truss bridge near Angelica, 40 ft. high, which has approaches of 10 and 40 15-ft. spans. There are two spans of Howe truss over the Genesee River, followed by two Howe trestles with 27 spans of approaches.

The narrow gauge was laid with hemlock ties, 3000 per mile. Near Olean it runs on a bank of the old canal. There are 54 pile and trestle bridges; near Portville one of the latter has 38 14-ft. bays.

The 1885 Report of the Railroad Commissioners reveals the following facts regarding the Lackawanna and Pittsburgh. Swain's Branch. A maximum grade of 90 feet per mile. Ties in good condition, but ballast is needed. The track is laid with 56-lb. iron rails, with joints opposite each other. Some steel rail is being used. The whole line was found to be in good condition, and special attention is called to the good condition of the bridges.

The line from Perkinsville Jct. to Lackawanna Jct. is well constructed, as are all bridges and trestles. All fencing is new and well kept. Here, again, the lack of ballast is reported. The ties are mostly of oak, in good state, and laid 2600 to the mile. The track is of 56-lb steel rail, laid with alternate, suspended joints. Point switches are used.

The narrow gauge division, from Angelica to Olean, about 40 miles, was found in much poorer condition than when last inspected. All timber structures are in need of repairs. As to the track, good ties are noted, but the rails are bad, and the track is poorly lined. The

station buildings are generally good structures, but it is noted that "the depot at Friendship . . . . should be renovated." Most of the others were found "neat and cleanly."

In the *Allegany County Republican* for Jan. 11, 1884, it was noted that the new broad gauge road had eight locomotives,* and offered service from Angelica to Rochester (by connecting trains). In a time-table dated Dec. 16, 1883, there were listed two trains each way daily except Sunday between Friendship and Nunda Jct., and Olean to Angelica, and one each way between Olean and Nunda Jct., and Olean and Friendship; there was also a Sunday special. In the April 18th issue appeared this statement: "Trains started at last on our broad gauge. And they will run forever." (In this instance, forever ended in 1947!) "It is a common sight to see eight or ten locomotives in Angelica at night—all with steam up. A new round house with about a dozen stalls for these iron horses, is needed and will be built." The Lackawanna and Pittsburgh is now a bridge road, connecting the Buffalo, New York & Philadelphia with the Delaware, Lackawanna and Western.

In the April 25th issue it was noted that the offices have been moved from Friendship, because it is no longer the end of the narrow gauge, to Angelica, where the change of gauge was; in the same paper it was stated that the hoist to change cars from wide to narrow trucks would be moved from Swains to Angelica.

The standard gauge to Belfast branched off about a mile below the village of Angelica where the old yard-wide road now terminated, and connected with the B. N. Y. & P. about a mile south of Belfast. "It is over this part of our road that solid palace car trains will run in a few days between New York and Chicago." Optimists even in those days! The prospective route consisted of the Lackawanna to Wayland, L. & P. to Belfast, B. N. Y. & P. to Newcastle, and B. & O. to Chicago.

The backers of the Allegany Central had visions of a further extension easterly. In the 1884 *Allegany County Republican* there is mention of a Pittsburg and Northeastern, which was a reorganization of a Pittsburgh, Lackawanna and Northeastern, (I have been unable to find mention of the former in Poor's Manual or in the New York Railroad Commissioners Reports), which road was planned to run from Perkinsville to Geneva, via Wayland, Cohocton, Naples, Italy, Middlesex, Potter, Graham, and Seneca. In the issue for July 20, 1883, it was stated that the grading east to Naples was nearly done. In the Jan. 11, 1884, issue of this paper Frank Sullivan Smith was quoted as having stated that the new road (L. & P.) will extend east to Naples and Geneva; it will be built by Warren and Hunter.

At some time during the year 1884, trackage rights of 207 miles over the Buffalo, New York and Philadelphia, south to Newcastle, Pa., were obtained in return for one-half the gross freight earnings; so that

* It was stated that one of these cost $10,800, two were $10,500, one at $7,542 and four at $5,500.

the Lackawanna and Pittsburgh owned, leased, and operated 299.86 miles, and publicized their main line as extending from Swains to Newcastle.

The Globe Fast Freight Line was in operation until Nov. 10, 1884. The cars were run by the Lackawanna and Pittsburgh over tracks of the Buffalo, New York & Philadelphia from Genesee Jct. to Nunda Jct., and from Belfast Jct. to Newcastle Jct. in Pennsylvania.

The 1884 New York Commissioners Report recorded 14 passenger and 8 freight engines, and 651 cars, all being leased. The average speed of passenger trains was now 25 miles per hour on the standard gauge, but remained at 18 on the 3-ft. During this year they carried 106,056 passengers (at a rate of 2.84 per mile) and moved 50,280 tons of through freight (at 0.567c per ton mile) and 41,876 tons of way freight (at 2.537c per ton mile). A deficit of $197,825.52 was added, making the total deficit $237,471.

There was a nation-wide financial panic in the summer of 1884 which affected all business. The Baltimore & Ohio, and bankrupt West Shore owed considerable sums to the Lackawanna and Pittsburgh; they could not be collected. The road was unable to pay salaries, and when the back pay amounted to $70,000, the company went into receivership on Dec. 8, 1884 the deficit was $401,873.74. No trains were run because there was no money to pay the men.—"they know George D. Chapman will raise it!"

Quoting from the *Allegany County Republican* for Oct. 5, 1884, "The financial panic of July last, and the bankruptcy of the 'West Shore' road seriously embarrassed the principal contractor for the extension of our road, and made it necessary that the Company accept the road at the hands of the contractor before it was finished. The completion of the unfinished work of construction has been a serious burden to the operating and financial departments.

"The recent great cut in freight rates instituted by the West Shore seriously affected the Lackawanna and Pittsburgh, through its connection with the Globe Freight Line. The business of the line was originated and the rates were fixed by lines East and West of our road" . . . "Mr. Chapman was appointed Receiver because of the confidence of all concerned that his intense energy, his great financial ability, and valuable railroad experience, would be untiringly devoted to the work of saving the road and placing it upon a sound financial basis." . . . "Capitalists have under consideration plans to complete the Geneva Extension to a connection with the West Shore, to standard gauge the line from Angelica to Portville, and build a short connection to Mt. Jewett, making the shortest possible line between the South and West and New England."

By June 6, 1885, enough money had been raised by the sale of certificates to pay the back wages due the men, with a little over.

In the Oct. 26, 1885 issue of the *A.C.R.* it was stated that during the winter season and until otherwise announced, standard gauge trains on the Lackawanna and Pittsburgh will run on the 5th and 19th of

each month, while the narrow gauge will run daily except Sunday, two each way, between Angelica and Olean.

Several interesting items are found in the 1886 Receiver's report. It is apparent that the B. N. Y. & P. lease had fallen through, for the total mileage was now given as 41.11 and 11.78 standard, and 38.74 3-ft. gauge. There was one standard gauge (4-4-0) engine, and three on the narrow gauge—one had four drivers and two had six drivers. The standard gauge engine must have been No. 215, because it is noted in the *A.C.R.* for Jan. 22, 1886 that "Henry Mead has taken Keefe's place firing on engine No. 215." The narrow gauge engines were No. 4 (4-4-0), 5 and 6. Engine No. 5 was in a bad derailment in Feb., 1886, rolling down a steep bank. The fireman jumped, but was crushed by the tender, which broke loose and rolled over several times, coming to rest on top of the fireman. The engine was not rerailed until Oct. 9th. No. 6 was out-shopped on Sept. 3rd.

There were one standard and four 3-ft. gauge passenger cars, and eight other cars; all equipped with Miller patent couplers and Westinghouse air brakes; they were heated by coal stoves, lighted by oil lamps, and ventilated by an elevated deck. The freight cars had link and pin coupling and hand brakes; these cars were (3-ft) 20 box, 3 stock, 87 flat, and 2 cabooses; (std.) 10 flat and 23 coal.

Meanwhile the Delaware, Lackawanna & Western had made plans to run a train carrying a sleeper from New York to Olean, by way of the L. & P. (this was the shortest route between these two points.), which gave a new lease of life to the latter. The local paper had an item to the effect that the engines in use were very decrepit, and that two new ones were expected shortly; they (Nos. 21, 32) had arrived by Oct. 1, 1886. The Belfast portion of the road was reballasted. This name-train became well known as the "Cannonball;" Capt. Robinson thinks the L. & P. was the first road to employ this name, which was painted on the cab of one of the engines. The train, which began operation on May 15, 1886, carried a Pullman sleeper; the two cars used in this service were named "Newark" and "Waverly." The photograph of this train shows Rochester, Hornellsville & Lackawanna engine No. 34 on the head end. The L. & P. carried the car at a contract rate of 3c per mile, and paid the Pullman Co. $527.57 for the year. The Belfast-Angelica section was referred to as "the Cannonball road" by old-timers. Excursion trains were run frequently to Stony Brook Glen, and one of the railroad timetables bore the legend "The Glen Route."

The timetable showed the express leaving Wayland at 5:15 A. M., reaching Olean at 8:25; it made nearly all the stops. There were locals between Swains, Wayland and Angelica, and Angelica and Belfast. Eastbound the express left Olean at 4:15 PM, arriving at Wayland at 7:06. When the Swains-to-Nunda leased line was not in use, travelers for Rochester went to Belfast and changed.

Express had been handled by the American Express Co. until May 15, 1886, after which the United States Express Co. took over; the latter company had been unable to renew its contract with the Erie, so shifted to the D. L. & W.

There was little difference in officers and directors at this period; George D. Chapman was president and receiver, Frank Sullivan Smith, general counsel, and Blair, assistant treasurer and auditor. Mr. Post dropped out and was replaced by Clinton R. Werden, of Providence, R. I. In early 1886 Mr. Smith resigned, to become an attorney for the Buffalo, New York & Philadelphia. Mr. Blair was the only man who remained with the road, irrespective of names or difficulties from the days of the Allegany Central, until he died in 1902, under the banner of the Pittsburg, Shawmut and Northern. His personality did more to foster goodwill than any other single item.

According to the 1887 report, trains were operated more regularly, because the Pullman car ran eight months of the year; it was also in service in 1888. It may be noted that the B. N. Y. & P. was sold on Sept. 23, 1887, becoming the Western New York and Pennsylvania; they continued the Cannonball. At the time of the sale it was rumored that the Rochester section was to be sold to the D. L. & W.

The *Allegany County Republican* for Feb. 25, 1887 carried the report that plans had been completed for a reorganization of the L. & P. as the Central New York and Southwestern, to take effect as soon as the Naples Extension (the fifteen miles east of Perkinsville) was finished, to afford a connection with the New York Central at Geneva. All the details are given in this paper. In Poor's Manual for 1888, it is stated that their plans had the approval of 95% of the stockholders; since this plan was never consummated it would appear that the remaining 5% were all-powerful, and against this reorganization.

By virtue of an arrangement between Charles Adsit, trustee of the Rochester, Hornellsville & Lackawanna R. R., and George D. Chapman, receiver of the Lackawanna and Pittsburgh, and between Adsit and the owners of the R. H. & L., he, as trustee, assumed control of the latter company, and of the approximately ten miles of the L. & P. between Hornellsville Jct. and Wayland, and operated this under the name of "The Rochester, Hornellsville and Lackawanna Railroad Co.," Charles Adsit, Trustee, from Sept. 25, 1888 to Oct. 4, 1889.

Deficits continued on the Lackawanna and Pittsburgh in spite of all efforts. The first receiver's report (9-30-85) gave $42,072.63 as the total deficit; the next year it was $66,806.41, the next, $93,102.02, and the last (1888), $102,303.20. Hence it is not surprising to find that the road was sold under foreclosure, by referee John S. Rockwell, on Apr. 27, 1889 for $25,000 cash to a committee of bondholders; these were Louis Fitzgerald, Edward Mahony, Henry A. V. Post, Marcus W. Robinson, and John H. Washburn.*

Apparently all were from New York City and connected with the Chapman interests. It was reorganized on May 7, 1889 under "an act to facilitate the reorganization of railroads sold under mortgage, etc.," as The (first) Lackawanna and Southwestern Railroad Co., the articles of association being filed on May 10th by Frank Sullivan Smith. The

* In the corporate history, p. 27, only Fitzgerald, Robinson and Washburn are given.

capital stock was $28,000,000, and there were 28,000 shares. The new directors were Thomas H. Bowden, George D. Chapman, John W. Curtis, Robert Dunlap, George W. Hall, Edward Mahony, Thomas C. Platt (Bull. 76, p. 59), Henry A. V. Post, Marcus W. Robinson, William Ives Washburn, William B. Wilkens, and Silas H. Witherbee, all of New York City. The committee, by a deed dated May 29, 1889, transferred its railroad to them.

From June 16, 1890, to Sept. 8, and Sept. 8 to Oct. 12, 1890, the Lackawanna and Southwestern was operated under the title of "George D. Chapman, Receiver of The Lackawanna and Pittsburgh Railroad Co.;" trains were run on the narrow gauge between Olean and Angelica (39.74 mi.), and standard gauge, Belfast to Hornellsville Jct. (30.46 mi.). The trains stopped running on Oct. 12th, the men refusing to work because their pay was in arrears. The 20.78 miles of standard gauge between Wayland, Hornellsville Jct., and Hornellsville was operated under the title, "M. S. Blair, Receiver, The Rochester, Hornellsville and Lackawanna Railroad Co.," from Sept. 8, 1890 until Sept. 1892, while from Nov. 1, 1890 to July 18, 1892, the narrow gauge line between Olean and Bolivar (18 mi.) was operated under the title, "M. S. Blair, Agent, The Lackawanna and Pittsburgh Railroad Co." This title and the timeables are given in succeeding issues of the *Allegany County Republican.*

The Lackawanna and Pittsburgh finally disappeared in 1892, being sold under foreclosure along with the Rochester, Hornellsville and Lackawanna, and the Lackawanna and Southwestern to J. Taylor Gouse of New York City, and Charles Adsit of Hornellsville, who held it as tenants in common. Mr. Adsit, being in possession of the road, sold his undivided interest to John Byrne, of New York City, and to Frank Sullivan Smith, of Angelica, and surrendered possession of the property to them. All these roads became the Central New York and Western, which was chartered on Nov. 18, 1892. The Chapman interests had finally been eliminated.

George D. Chapman was one of the lesser railroad magnates of his era. He was a partner of the firm, Chapman and Sinkerdyke, who had paid $80,000 for the old Rochester, Nunda and Pennsylvania Railroad Co., in which $900,000 had been invested with but twenty miles of grading to show for it. The plans to build from Rochester towards Olean had been ruined by the construction of the Genesee Valley Canal Railroad, when the canal was abandoned and sold for a right of way. The discovery of oil in Allegany County led to feverish railroad activity, and resulted in the construction of the Allegany Central and its immediate predecessors, as well as other narrow gauge roads in the oil regions. William O. Chapman, brother of George, was superintendent of the Allegany Cenetral, while George became general superintendent of the succeeding Lackawanna & Pittsburgh. Eventually he moved to New York, being in a firm with offices at 48 Wall St., and spending more time there than in Angelica. As receiver of the L. & P., he had a generous salary, which was paid ahead of the other bills; this reduced

his popularity among the townspeople. The editor of the local paper wrote several long, scathing articles (1887-1889) about the man, for his numerous extravagances, and the like. Referring to an episode on the Allegany Central, a news headline read "Angelica Redeemed from the Redeemer." In one of the last articles he reported on a beautiful estate that Mr. Chapman had in Connecticut, and about his activities with a Connecticut railroad. George always had some control over the Lackawanna and Pittsburgh and its successors until it became the Central New York and Western in 1892.

A son, Lucian T. Chapman, was president of the Central Construction Co., likewise at 48 Wall St.; this company operated the Lackawanna and Southwestern, which succeeded the L. & P., for several months. Lucian became somewhat more popular by paying back wages of $23,000 due the men, in August, of 1889.

Locomotives of the Lackawanna and Pittsburgh

There is still uncertainty about some of the engines that ran on the Lackawanna and Pittsburgh. Most of the information has come from records of the New York Locomotive Works (Rome, N. Y.), thanks to our members C. E. Fisher and S. R. Wood. The remainder has been gleaned from the State Commissioners' Records, Poor's Manual of Railroads, and from an old file of the Angelica weekly paper, the *Allegany County Republican,* now in the Angelica library. A chronological table has been drawn up, which makes it easy to see which engines were on the road in a given year; when one was returned during any year, it is so indicated by the letter R. The two Rochester, Hornellsville and Lackawanna engines, Nos. 23 and 34, built in 1886, are not included, although there is no doubt that they were used on the Lackawanna and Pittsburgh.

At the time of its formation the Lackawanna and Pittsburgh had seven narrow gauge engines (Nos. 1-7) received from the second Allegany Central (see the roster, p. 26), but some of these disappeared after 1885—only Nos. 4, 5, 6, and 7 were certainly used in succeeding years, because news items were found in which they were mentioned by number.

Mr. Lyons has been able to recall some facts about the road and locomotives, which fill some of the gaps in our previous knowledge. The four engines of the 100 and 300 series were second hand moguls (2-6-0); No. 100 was called the "Old Hundred." This engine had 5 ft. 8 in. drivers, the front pair being blind. Furthermore, it had no injector, but water was pumped into the boiler by a connection from the crosshead; Mr. Lyon's first morning duty was to get the engine ready to run, the last detail being to run it up to County House and back, to be sure the boiler was filled. The two 300's were bought to operate the Globe Fast Freight Line.

It appears that prior to 1886 the standard gauge engines were numbered in the 100, 200 and 300 series, without much order. From the Rome records it is obvious that the engines were rented, and (presumably) returned when payments lagged; they were then repaired as

needed, and rented or sold elsewhere. In 1884 there was a total of 22 locomotives, 7 of which were narrow gauge. There were 8 standard on Jan. 11th (Nos. 201-204, 208, 210; 100, 103 *or* 211, 212(, with a total of 15 for the year (all the preceding and Nos. 205, 206, 215, 308, 310). We are sure of No. 215 because it is mentioned by number in the local paper, but it is not to be found in the records. However, four (Nos. 205, 206, 208, 210) were returned to the Rome works during the year 1884. Under the receivership of the Lackawanna and Pittsburgh, it was noted in the annual reports that "a large proportion of the equipment on hand at the date of the last report has been surrendered during the current year." This would be due to inability to keep up installments, or sale for cash; the first alternative seems more likely because it is actually known to be true for the engines returned to the Rome works.

At the close of 1885 there were only nine engines, five being standard gauge; Nos. 100, 103, 204, 211 and 212 were returned to the Rome plant. There is no record of the fate of No. 203, but Nos. 201 and 202 were repossessed in 1886; the contemporary paper noted that the engines on the railroad were decrepit, with new ones ordered from Cooke—these were Nos. 21 and 32. In the State Commissioners' report it was noted that these two and No. 43 were newly-purchased in 1886, which left only No. 215 of the older engines for this and the following year. After that there were no reports until under the Lackawanna and Southwestern, when nine engines were listed, five being of standard gauge (Nos. 21, 23, 32, 34, 43); hence No. 215 has disappeared. The engines were not owned but leased—an 1888 report shows installments were paid on three of them, (numbers not specified, but, in all likelihood, Nos. 21, 32 and 43, since the other two belonged to the Rochester, Hornellsville and Lackawanna).

Locomotives of the Lackawanna & Pittsburgh

Nos.	AC	L&P			
3' ga.	1883	1884	1885	1886	1887
1.	X	X	X		
2.	X	X	X		
3.	X	X	X		
4.	X	X	X	X	X
5.	X	X	X	X	X
6.	X	X	X	X	X
7.	X	X	X		
Std.					
Ga.					
21.				X	X
32.				X	X
43.				X	X
100.		X	R		
103.		X	R		
201.		X	X	R	
202.		X	X(?)		
203.		X	R		
204.		X			
205.		X			
206.		X			

208.	X			
210.	X			
211.	X	R		
212.	X	R		
215.	X	X	X	X
308.	X	X(?)		
310.	X	X(?)		

No Reports for 1888 and 1889.

The Roster of the standard gauge L. & P. engines follows. The narrow gauge engines are omitted, since there is no evidence of any change from the Allegany Central roster.

Lackawanna & Pittsburgh Standard Gauge Locomotives

No.	Builder	C/N	Date	Type	Cyls.	Cost	Returned	Notes
21	Cooke	1715	8-1886	4-6-0	18x24			A
32	Cooke	1721	6-1886	4-4-0	16x24			B
43				4-4-0				C
100				2-6-0			3- -85	D
103				2-6-0			3- -85	D
201	Rome	53	1-30-83	4-4-0	17x24	$10,500	6-2-86	E
202	Rome	54	12-6-83	4-4-0	17x24	10,500	6-2-86	E
203	Rome	55	12-20-83	4-6-0	18x24	10,800		
204	Rome	57	12-27-83	4-6-0	18x24	10,800	3- -85	F
205	Rome	82	7-23-84	4-4-0	16x24	8,120	10-15-84	G
206	Rome	83	7-26-84	4-4-0	16x24	8,120	10-15-84	G
208				?			7- -84	H
210				?			7- -84	H
211	Rome	52	11-8-83	4-6-0	18x24	10,500	2-19-85	J
212	Rome	58	12-12-83	2-6-0		10,850	2-19-85	K
215				?				
308				2-6-0				L
310				2-6-0				L

A. Straight stack. Ren. P.S. & N. first No. 15. Scrapped 5-27-12.

B. Straight stack. P.S. & N. No. 8. Scrapped 12-31-24.

C. Diamond stack. Came to L. & P. in 1886. The "private engine" of Frank Sullivan Smith, who obtained it from the Rail Road & Equipment Co. Scrapped in 1899.

D. Repaired at the Rome Works, March 1885. Disposition unknown. Dia. drivers, 68".

E. Returned 6-2-1886, and repaired at a cost of $430 and $280 respectively; sold to Western New York & Pennsylvania, as Nos. 41 and 42.

F. Owned by Post, Martin & Co., who advanced money to the L. & P.; took back the engine when they did not pay their debt. It was eventually sold to the Rome, Watertown & Ogdensburgh, 3-20-1885.

G. Rented from Rome Works, 7-23-84 to 10-15-84; returned and sold to Wheeling & Lake Erie, 1-10-85, as No. 29, 30; later ren., 33, 34; 321, 322; 1401, 1402.

H. In July, 1884, these were returned to Rome for repairs, which cost $4120 each. When the road was unable to pay the bill, Post, Martin & Co. sold them, on 4-8-1886, to the New York, Rutland & Montreal R. R., for $10,000. This road failed, so both were sent for trial to the New York, West Shore & Buffalo R. R., but returned on 10-2-1885. On 1-6-1886, No. 208 was delivered to the Lebanon Springs R. R. These engines do not appear on the Rome records as built there. Both scrapped 6-30-1890.

J. Built for Washington, Ohio & Western, 11-8-1883, as their No. 7; returned to builder, ran on L. & P., again returned to builder, and sold to R. W. & O.

K. Built for W. O. & W., 12-12-83, returned to builder, ran on L. & P., again returned to builder and sold to R. W. & O.

L. These were repaired and, on 11-11-1888, sold to the Central of New Brunswick Ry.

Locomotive No. 43 is quite an enigma. It first appeared in the New York State Commissioners' report as "newly acquired" in 1886. In the *Allegany County Republican* for Oct. 11, 1889, it is noted that No. 43 was being used in construction work. On the back of a photograph, appear the words "at Angelica, 1892." With a magnifying glass it is possible to read lettering on and under the cab; on the latter is stencilled "F. S. Smith, Owner." While above the rear wheel it reads "Rail Road & Equipment Co., Owner. Leased to Frank S. Smith," but the date is illegible. Mr. Lathrop said it was known as "the private engine of Frank Sullivan Smith." It seems obvious that it is an old engine, only suited for such light work as hauling a work train or private car. It has much brasswork.

Many inquiries have been made, with divergent results. The varied opinions are set down here. Member H. S. Walker reports that, on page 120 of the Cooke Locomotive Co. Works Drawing Room specifications Book (1884-1890), it is recorded that, on May 20, 1886, the repair engine "Danbury," formerly of the Danbury & Norwalk R. R. (of Conn.), went to the Lackawanna and Pittsburgh. From the Hinkley records, Member C. B. Burr, of Derby, Conn., found that the "Danbury" was built on Oct. 17, 1851; shop No. 337, 4-4-0, 14x20, 60″. John Sherron (Narbeth, Pa.) says it was inside connected. It was rebuilt on Jan. 31, 1867, at a cost of $3,000. On Oct. 28, 1886, the old engine "Danbury" was sold, and a new engine of the same name purchased from Cooke, the difference in price being $5,570. The second "Danbury" was D. & N. No. 7, Danforth-Cooke shop No. 1714, built, April 21, 1886. The records do not prove a sale of the first "Danbury" to the Cooke Co. Mr. Sherron states that the "Danbury" was built in 1873, and renamed "Georgetown," and was traded in on the "Emma," in 1880.

In the *Allegany County Republican* for Apr. 9, 1886, it was noted that a Mr. Carr of the Railway Equipment Co., called in at the L. & P. railroad office. The name is so similar to the Rail Road & Equipment Co. one wonders if the editor made a mistake, especially because of the date.

Through member S. R. Wood, opinions were obtained from Mr. Paul Warner and Mr. Walter Lucas. After examining the picture, the latter wrote: "I believe this to be a Danforth engine built about 1872 for the United States Rolling Stock Co. This company leased locomotives and cars and they evidently had the builders apply an oval plate on the smoke box with the shop number in large figures to be easily read when parts were required. Danforth built two engines, shop numbers 828 and 869 in May and June 1872 for the U. S. R. S. Co. Unfortunately, no pictures exist of them. Cyls. 16x24. Engine numbers

are not given in the records of that time. I have not been able to trace the Rail Road & Equipment Co.; it may have succeeded the U. S. R. S. Co.

"The full wheel covers were applied by all of the Paterson builders at one time or another. Grant, in particular, used them. The Erie had a number of 4-4-0 engines built that way by Brooks."

Mr. Warner compared No. 43 with two Danforth engines of the same period, noting that the latter had "the same kind of monkey-tail bell rope arm that is used on No. 43. It is significant that the two Danforth engines shown in the original edition of Forney's Catechism, published about 1872, have the same fantastic rig. That in itself is just about enough to stamp the No. 43 as a Danforth."

Allen O. Geertz wrote (4-4-49): "The locomotive marked 43 is clearly an old P. R. R. Class 'C' (or D-3) but the number on the sand box is not P. R. R. standard, and the locomotive must have had that number on some other road. There were no 4-4-0's of P. R. R. standard design in any of the controlled roads, bearing the number 43, in lines East or West. It is probable this locomotive was at one time on the P. & E., in which case it was one of the following: 2022, 2035, 2046, 2047, 2050, 2086, 2093, 2106." (Note: Not everyone agrees with this.)

Charles E. Fisher, President of the Railway and Locomotive Historical Society, advises as follows:

"Although I hold in high esteem the knowledge of the late Mr. Geertz in P. R. R. motive power matters, I must disagree with him as I don't believe the engine was ever a part of their motive power roster. Rather the dome castings, the cab and the monkey-tail bell rope arm, mentioned by Mr. Warner, all indicate a Cooke locomotive built in the seventies. In view of the fact the Cooke records indicate that in 1886 the 'Danbury' of the Danbury & Norwalk R. R., went to the Lackawanna & Pittsburgh, I think we should lean to that possibility. Altho' this locomotive was built in 1851, it was rebuilt in 1867 and was turned in as part payment for the 'Emma' built by Cooke, in 1880. This was not uncommon at the time for if the locomotive was not worth rebuilding it did possess a scrap value. Such rebuilding was not usually entered in the records of the newly constructed locomotives but this rebuilding was sometimes the equivalent of a new locomotive in all details. The fact that the engine was not disposed of for several years is not unusual either. It seems to me that just such a locomotive would be an ideal purchase for the L. & P. in their financial plight, in fact the credit of Frank Sullivan Smith might have been better than that of the road. The Rail Road & Equipment Co., like some other companies of the time, might handle just such equipment. Whatever the details of ownership were, to my mind the locomotive bears certain characteristics that mark it as a Cooke locomotive. She might have been built for another road that got into financial trouble that had to dispose of some of its motive power and came to the equipment company in this fashion or, it could be the old 'Danbury' rebuilt to resemble a Cooke product and to this,

with the fact that such a transaction is mentioned in the records, I'm inclined to feel is the best answer to the problem until something definite turns up."

Pittsburgh, Lackawanna and Northeastern

Articles of association for the Pittsburgh, Lackawanna and Northeastern Railroad Co. were filed on Dec. 17, 1883, with a capital stock set at $2,500,000. This road was to start from a point on the Lackawanna & Pittsburgh Railroad, at or near Perkinsville, and extend via the most direct and feasible route via Wayland, Cohocton, Naples, Italy, Middlesex, Potter, Gorham, and Seneca to Geneva, with an 8-mile branch starting 1¾ mi. northeast of Middlesex, and running via Middlesex, and Italy to Naples. The main line was to be 46 miles in length.

The Secretary of the Public Service Commission of the State of New York states that no report was ever filed, nor has he a list of the officers and directors.

On May 7, 1887, the name was changed to the Central New York and Southwestern. This was at the time when attempts were being made to reorganize the bankrupt second Lackawanna and Pittsburgh (see under latter company).

This railroad died hard. In the April 1, 1892 *Allegany County Republican* it was noted that "The sum of $50,000 which it was necessary to raise in order to insure the building of the Middlesex Valley R. R., from Naples to Geneva, has at last been subscribed. . . . the contract to build the road has been signed, the trains to run by July 1st. Work to begin April 5th." This eventually became the Naples branch of the Lehigh Valley.

In the March 2, 1894, issue it was noted "that preparations are now being made to extend our road from Wayland to Naples this Spring, and then using the new road from there to Stanley, and thence to Geneva."

Lackawanna and Southwestern

There were two railroads bearing the same name, Lackawanna and Southwestern. The first one was formed on May 5, 1889, by a reorganization of the Lackawanna and Pittsburgh, which had been sold under foreclosure on April 27th to a committee of bondholders; the Articles of Association were filed by Frank Sullivan Smith on May 10th. The capital stock was $28,000,000 distributed in 28,000 shares. The committee transferred its railroad to the new directors on May 29, 1889. The property, acquired by purchase, (deed dated May 7, 1889 according to the Valuation Report, p. 25), from Louis Fitzgerald, John H. Washburne and Marcus W. Robinson (the committee of purchase and reorganization) consisted of all the railroad extending from the village of Olean to the village of Angelica, and from a point on the Genesee Valley Canal R. R. Co. at or near Rockville in the town of Belfast, to a point on the line of The New York, Lackawanna and Western, at or near the village of Perkinsville, with a branch commencing on the line of The

Lackawanna and Pittsburgh R. R. Co., at or near the intersection of said railroad with the boundary line between Allegany and Steuben Counties, and running southeasterly via Hornellsville to a point at or near Canisteo, with all stations, machinery, equipment, etc., constructed or acquired. The approximate mileage was 80.85.

The directors were Thomas H. Bowden, George D. Chapman, John W. Curtis, Robert Dunlap, George W. Hall, Edward Mahony, Thomas C. Platt, Henry A. V. Post, Marcus W. Robinson, William Ives Washburn, William S. Wilkens, and Silas H. Witherbee, all of New York City. With the possible exception of Senator Platt, this New York group appears to have been the Chapman interests. According to the Dec. 7, 1888, issue of the *Allegany County Republican* it has been rumored that Platt was to be the president, but no records showing this to be a fact have been uncovered. As he was active on the nearby Addison and Pennsylvania R. R., at this time, and director and receiver on other narrow gauge railroads in the vicinity (see Bull. No. 76, p. 59), local opinion, reflected by the editor of the paper, favored his control of the railroad; it was confidently expected that an extension down into the Pine Creek area of Pennsylvania would be realized—as will be mentioned under the Rochester, Hornellsville and Lackawanna.

The employees of the Lackawanna and Pittsburgh had received no pay for a long period, and were not ready to operate trains on its successor. The local paper again contained an expression of opinion to the effect that George Chapman was now very unpopular and should step out. Eventually it was decided that the Central Construction Co., of which Lucian, son of George, was president, should operate the railroad. On or about Aug. 16th, Lucian appeared in Angelica, and started paying back bills, disbursing $23,000 in all. There was a long retrospective article in the Aug. 23rd issue of the paper, pointing out the unfortunate effect of the Chapman regime.

On Oct. 2, 1889, The (first) Lackawanna and Southwestern, and The Rochester, Hornellsville and Lackawanna were consolidated, to form the second Lackawanna and Southwestern Railroad Co., owning a narrow gauge railroad from Angelica to Olean, and a standard gauge road from Belfast to Perkinsville and Hornellsville. The new officers and directors, all of New York, except as noted, were as follows: President, Edward Mahony; V. P., George D. Chapman; Sec'y, William I. Washburn; Treasurer, W. Z. Brown; and Thomas H. Bowden, of Montclair, N. J., Frank Sullivan Smith, of Angelica, John W. Curtis, Robert Dunlap, George W. Hall, Thomas C. Platt, H. A. V. Post, M. W. Robinson, William D. Wilkins and Silas Witherbee. Mahony was in the Chapman office, as probably were most of the others; it is practically the same group as has appeared before.

The Central Construction Co. operated the Lackawanna and Southwestern from Oct. 1, 1889, to Apr. 1, 1890, when it turned the road over to its owners, the Lackawanna and Southwestern R. R. Co. Without attention the road had been allowed to run down, and considerable effort had to be made to bring the right of way into a suitable condition to run trains. The September timetable showed one train each way daily

between Wayland and Angelica, one Hornellsville Jct. to Hornell, and nothing on the narrow gauge. Among items noted in the paper were these: (1) narrow gauge engine No. 4 has been overhauled; (2) the "Cannonball" express was reintroduced in early November. During its term of operation, the Central Construction Co. made improvements totaling $40,737.03, and had a total deficit of $1,975.93. It employed 131 persons. The American Express Co. paid the railroad $35 per month for carrying the express. There was no other change in officials and directors.

In the Railroad Commissioners Report covering the Lackawanna & Southwestern, for 1889, the following items were found. The line from Belfast Jct. to Perkinsville is 41 miles of single track, "laid with steel rails, angle bar connections and point switches out of main line." The only trains run over this road, for a number of months prior to the inspection, were those of the R. H. & L. Co., between Hornellsville Jct. and Perkinsville, about 11 miles. "The leased line between Swain and Nunda Jct., and the narrow gauge division between Angelica and Olean are not in operation." Also, "for a few miles east of Angelica, in the valley of Angelica Creek, the freshet of June 1, 1889, did considerable damage to the trestle bridges."

Most of the bridges and trestles need repairs. Abutments are in such condition as to require repairs. Many ties need replacement, and highway signs are down. The depots are in the same condition as reported in 1885 (last inspection).

From April 1, 1890, to June 15th the road was operated by its own organization. Excerpts from a local paper, reveal a most interesting account of the short-lived Lackawanna and Southwestern. According to the issue of Jan. 17, 1890, the narrow gauge line was to be opened the following Wednesday, thus resuming for the first time since the Strike. "The work of re-building the trestle bridge over the river near what is known as Wigwam station, is now about finished; also, the repair of the narrow-gauge roadbed on entire line."

A wreck on Feb. 12, on the narrow gauge shows a six-drivered engine on a mixed train was running. ". . . the southbound train met with an accident that most fortunately was not serious. When going down grade about a mile and a half from Richburg, and in the middle of the Jordan trestle, the six drive wheels of the locomotive left the rails —the small front wheels remaining on; the freight car back remained on; but the passenger coach wheels all left the track and the coach tilted up part way over. . . . If the locomotive had gone a foot farther the entire train would have tumbled down the bank. But as it was, no damage was done. The passengers were transferred to the other train. The men got the engine and car on track by 8 the next morning, and the train arrived in Angelica on regular time Thursday noon. Workmen thoroughly repaired the track . . ."

"The business of the road is increasing, notwithstanding the unusually dull time. The employees are regularly paid, as are all current bills at maturity. Taken altogether, the people along the line of our road are to be congratulated on the present condition it is in."

The speed of the narrow gauge trains was not exactly phenomenal! As noted on April 4, 1890, "As the noon train Tuesday was approaching trestle about 3-4 mile beyond Wigwam, the carpenters there happened to see that the forward trucks of one of the boxcars was off the track, and yelled to the engineer, who stopped the train with locomotive and two freight cars on trestle. In less than five minutes the men had the car back on the track and train going again. Quick job!"

On June 15, 1890, George D. Chapman took possession of the property, and operated it under the title of "George D. Chapman, Receiver of the Lackawanna and Pittsburgh Railroad Company" until October 12th. It was then idle until November 1st, when the eighteen miles of narrow gauge between Bolivar and Olean was operated under the title of "M. S. Blair, Agent, The Lackawanna and Pittsburgh Railroad Company," resulting in a surplus of $769.13 up to June 30th. Two locomotives and fifty-six cars were used. Operation under this title ended on July 18, 1892, and until September it was operated under the title "M. S. Blair, Receiver, Lackawanna and Southwestern Railroad Company." There was no report to the state in 1891, but the next year a deficit of $280.72 was reported, with a note that George D. Chapman was now the receiver and Mitchell S. Blair was agent for the receiver; the bankruptcy habit seems to have been resumed!

Apropos of these many title changes the editor of the *Allegany County Republican*, in the June 27, 1890 issues, observes "The Friendship & Bolivar R. R., Allegany Central, Lackawanna & Western, Rochester, Hornellsville & L., Lackawanna & Southwestern, and flip-flop, now again L. & P. R. R.—sometimes up and sometimes down—continues to jog along just the same . . ."

August 8, 1890. "After long rest and much negotiation, that part of road between Nunda and Swains is now to be repaired and operated by the W. N. Y. & P., who have also made a traffic contract to run trains over that part of our road between Swains and Hornellsville, and it is the intention of said company, as soon as the said stub link is repaired, to thereafter run trains regularly, direct between Hornellsville and Rochester."

October 17, 1890. "As has for some time been expected, all trains on our road have again stopped, the last one Sunday evening. But a freight train went over the standard gauge today (Fri.) clearing up, and some shipment of apples, etc. will thus be forwarded . . ."

Oct. 24, 1890. "Regular daily through train service will not be resumed on our railroad before next Spring, probably as things now look—by which time it is safe to predict, this road will be sold, and owned by men who will extend it into Pennsylvania, broad-gauge the narrow-gauge division, and thus make it a paying road. There is no doubt whatever as to this.

"The truth is, this road could never be any good to anybody so long as George D. Chapman has anything to do with it. The sale of this road two months ago was no sale at all—and Mahoney continued as Chapman's figure-head; same old business.

"And the truth is, under the circumstances it is a good thing that matters have come to a head and the trains stopped—to the end that Chapman shall disappear henceforth and forever from it. . . . As recently announced, Mr. M. S. Blair, who has from the beginning been the Auditor of our road, was appointed Receiver of the link from Hornellsville up to junction with our road and known as the R. H. & L. Chapman planned to hold his grip on that link by having his son Lucien so appointed, or Lucien's father-in-law, Mr. Foord, of New York—which would have kept said link in family. But the plan failed, the Court appointing Mr. Blair Receiver instead. This was a very significant thing as indicating future developments.

"But both ends of the road will be operated, that is to say, from Hornellsville to Wayland and back, and Chas. Hammond will be station agent there. Also the narrow gauge between Bolivar and Olean.

"And General Manager Blair will run a train once or twice a week the entire length of the broad gauge line, to pick up any accumulated freight, . . .

"Supt. Badger came to this road on the 1st of Aug. '86. He has proved to be the best all-'round official the road ever had in that capacity. He is considering propositions made to him elsewhere, one of which he will probably accept at $2,500 a year and cottage free. He is a very superior railroad man.

"Mr. Henry S. Hastings, who for 5 years has been the auditor's chief assistant, on Wednesday went to Bradford, Pa., to fill a position at $1,200 a year in office of the Allegheny & Kinzua R. R. Co. He is a superior railroad book-keeper, and Mr. Blair speaks very highly of him in all respects. . . . Engineer Cooper will run the engine on the narrow gauge end."

May 15, 1891, reported the death of former Supt. Badger. Wm. H. Badger was born in New Milford, Pa., in 1841, and at 19 was a fireman and then railroad engineer. He served in the army during the Civil War. In 1874 he returned to the railroad as an engineer on the Lackawanna, later becoming conductor; he took the first through train out of Buffalo in 1882. In the summer of 1886 the affairs of the L. & P. were in such bad shape, Supt. Hallstead of the D. L. & W. was asked to send a capable man to take the position of general superintendent; Badger was recommended. He remained until the road shut down on Oct. 12, 1890. The Goodyears of Buffalo (see Bull. No. 49) at once secured him to take charge of their extensive lumbering interests in Potter Cty., Pa. The spring of 1891 was very warm and dry, and there were many forest fires; one was raging on the Goodyear property, along the then Sinnemahoning Valley R. R. Badger got a work train and 70 men and set out to fight the fire; a short distance from Austin the hemlocks were burning so fiercely the train had to stop—when it tried to return it found the fire behind it. The men lay down on the cars and tried to run through the fire, but the intense heat had spread the rails and the train was ditched. The men jumped into a nearby brook of hot water and were badly burned, but Mr. Badger somehow missed it and was later found, badly charred, on the ground between what had been two piles

THE

Lackawanna & So'west'rn

PRESIDENT.....E. MAHONEY.
Vice President.....Geo. D. Chapman.
Auditor and Ass't Treas.....M. S. Blair.

—OPERATED BY—

The Central Construction Company.
LUCIAN T. CHAPMAN, Pres't.
GENERAL OFFICES—ANGELICA, N. Y.

CONDENSED TIME - TABLE.

Took Effect Monday, Nov. 4, 1889.

[OFFICIAL.]

STANDARD GAUGE DIVISION.

	PM	AM	Leave	Arrive	PM	AM	
.....	2 45	5 45	..WAYLAND..		7 00	11 15	.....
.....	3 00	.....	..Perkinsville..		.....	10 55	.....
.....	3 20	.....	Stony Brook Gl'n		.....	10 32	.....
PM	PM	AM			PM	AM	AM
6 28	3 30	5 47	Hornellsville Jc.		6 33	8 44	5 34
6 16	3 21	.....	.....Burns.....		6 38	8 49	.....
6 11	3 10	6 00	....Arkport....		6 47	9 03	5 21
6 00	2 58	6 12	HORNELLSV'E		6 58	9 15	5 10
L've	L've	Arr			Arr.	Arr.	L've
.....	2 50	5 53	...Canaseraga...		6 25	8 39	.....
.....	4 06	.....	...Garwood's...		.....	7 20	.....
.....	4 19	.....	.....Swains.....		.....	8 09	.....
.....	4 25	.....	.....Grove.....		.....	7 59	.....
.....	5 00	6 31	....Birdsall....		5 52	7 37	.....
.....	5 41	.....	...Bennetts....		.....	7 15	.....
.....	6 09	6 56	...ANGELICA...		5 29	6 58	7 35
.....	6 45	7 18	....Belfast....		5 12	AM	7 00
.....	PM	7 00	.....Cuba.....		4 44	.....	PM
.....	.....	8 07	....Hinsdale....		4 37	.....	.....
.....	.....	8 23	....OLEAN....		4 55	.....	.....
.....	.....	AM	Arrive.	Leave.	PM	.....	.....

J. W. CORAY, Station Agent, Angelica.

NARROW GAUGE DIVISION.

			Leave	Arrive			
.....	.....	.....	...ANGELICA...		.....	.....	.....
.....	.....	.....	....Charles....		.....	.....	.....
.....	.....	.....	....Wigwam....		.....	.....	.....
.....	.....	.....	...Belvidere...		.....	.....	.....
.....	.....	.....	....Higgins....		.....	.....	.....
.....	.....	.....	...Friendship...		.....	.....	.....
.....	.....	.....	.....Nile.....		.....	.....	.....
.....	.....	.....	.....Wirt.....		.....	.....	.....
.....	.....	.....	...West Notch...		.....	.....	.....
.....	A M	A M	....Richburg....		P M	A M	.....
.....	8 25	9 50	....Bolivar....		1 45	6 20	.....
.....	8 39	9 36	..Little Genesee..		1 30	6 31	.....
.....	8 45	9 30	....Bowler....		1 14	6 42	.....
.....	8 05	9 18	.....Ceres.....		2 20	6 54	.....
.....	8 50	9 05	.....Maine.....		2 32	7 04	.....
.....	8 42	8 59	..White House..		2 01	7 12	.....
.....	8 33	8 53	....Portville....		2 11	7 19	.....
.....	8 25	8 44	....Gordons....		2 19	7 23	.....
.....	8 16	8 43	....Westons....		2 27	7 31	.....
.....	8 00	8 28	....OLEAN....		2 45	7 45	.....
			Leave	Arrive			

For further information, tickets, time-tables, etc., apply to any L. & S. W. Station Agent.

CHAS. H. HAMMOND, G. P. A.

W. H. BADGER,
ANGELICA, Nov. 4. Gen'l Supt.

THE

Lackawanna & So'west'rn

PRESIDENT.....E. MAHONEY.
Vice President.....Geo. D. Chapman.
Auditor and Ass't Treas.....M. S. Blair.

GENERAL OFFICES—ANGELICA, N. Y.

CONDENSED TIME - TABLE.

Took effect Tuesday, June 24, 1890.

[OFFICIAL.]

STANDARD GAUGE DIVISION.

	PM	AM	Leave	Arrive	PM	AM	
.....	3 15	5 15	...WAYLAND...		7 00	11 15	.....
.....	2 28	.....	...Perkinsville..		.....	10 55	.....
.....	3 47	.....	Stony Brook Gl'n		.....	10 34	.....
P M	P M	A M			P M	A M	A M
6 24	3 50	5 50	Hornellsville Jc.		6 24	9 18	5 44
6 19	3 45	.....	.....Burns.....		6 19	9 23	.....
6 11	3 35	6 01	....Arkport....		6 11	9 32	5 29
6 00	3 20	6 12	HORNELLSV'E		6 00	9 45	5 15
L've	L've	Arr.			Arr.	Arr.	L've
.....	4 16	5 58	...Canaseraga...		5 29	8 30	.....
.....	4 29	.....	...Garwood's...		.....	8 18	.....
.....	4 44	.....	.....Swains.....		.....	8 08	.....
.....	4 57	.....	.....Grove.....		.....	7 52	.....
.....	5 30	6 36	....Birdsall....		5 58	7 31	.....
.....	5 44	.....	...Bennetts....		.....	7 07	.....
.....	6 20	7 08	...ANGELICA...		5 34	6 40	7 25
.....	6 45	7 28	....Belfast....		5 18	AM	7 00
.....	PM	7 45	.....Cuba.....		4 51	.....	PM
.....	.....	8 15	....Hinsdale....		4 34	.....	.....
.....	.....	8 35	....OLEAN....		4 15	.....	.....
.....	.....	AM	Arrive.	Leave.	PM	.....	.....

NARROW GAUGE DIVISION.

	P M	A M	Leave	Arrive	P M	A M	
.....	1 35	7 15	...ANGELICA...		5 15	11 30	.....
.....	1 51	7 25	....Charles....		5 04	11 13	.....
.....	1 58	7 30	....Wigwam....		4 59	11 06	.....
.....	2 08	7 38	...Belvidere...		4 49	10 55	.....
.....	2 18	7 45	....Higgins....		4 40	10 45	.....
.....	2 25	8 01	...Friendship...		4 35	10 30	.....
.....	2 52	8 19	.....Nile.....		4 11	10 04	.....
.....	3 08	8 24	.....Wirt.....		3 58	9 49	.....
.....	3 14	8 30	...West Notch...		3 50	9 40	.....
P M	3 25	8 39	....Richburg....		3 35	9 25	P M
5 00	3 50	8 49	....Bolivar....		3 25	9 15	7 40
5 11	4 04	8 59	.Little Genesee..		3 09	8 59	7 28
5 19	4 16	9 07	....Bowler....		2 59	8 36	7 20
5 30	4 34	9 17	.....Ceres.....		2 47	8 16	7 11
5 38	4 47	9 27	.....Maine.....		2 32	8 01	7 01
5 47	4 56	9 38	..White House..		2 23	7 52	6 54
5 54	5 05	9 41	....Portville....		2 15	7 40	6 48
6 00	5 14	9 47	....Gordons....		2 08	7 31	6 42
6 06	5 26	9 54	....Westons....		2 02	7 22	6 36
6 20	5 45	10 10	....OLEAN....		1 45	7 05	6 22
PM	PM	A M	Arrive.	Leave	P M	A M	P M

J. W. CORAY, Station Agent, Angelica.

For further information, tickets, time-tables, etc., apply to any L. & S. W. Station Agent.

CHAS. H. HAMMOND, G. P. A.

W. H. BADGER,
Gen'l Supt.

ANGELICA and BELVIDERE.

DURING continuance of stoppage of trains on the L. & P. R. R., the undersigned will run Stages between Angelica and Belvidere.

Leave Angelica at 6 a. m. and 4 p. m. Morning Stage connecting with Erie trains Nos. 3 and 4, and then returning. The 4 p. m. Stage connects with No. 14. Also carry baggage and express.

Angelica, Sept. 26. **JUSTUS R. MILLS.**

Lackawanna Southwestern timetables of 1889 and 1890.

of logs. There were four casualties. Another report said there were two trains, both backing in, and that Badger was on the first. The second train, first to return, got over a trestle all right, but it gave way under the first's engine; Badger then went ahead to try and get the first train to come back for the men.

June 18, 1891. "Every attorney of the town was in Friendship on Monday, to file claims put in their hands against the L. & P. R. R. under the Chapman receivership. McNorton's law office was filled to overflowing with attorneys and clients . . . The total sum of claims presented was about $28,000 . . . it will take a couple of months to settle the legal points . . . and the road will not be advertised for sale till the entire indebtedness is legally settled . . . it is supposed that Chapman will swell his charges as Receiver to the utmost limit, and that is liable to be a good many thousand dollars. He is under the law entitled to a certain per cent of the total receipts of the road, as pay for its care as a receiver. And he has claimed that he never took up a dollar of such salary but on the contrary, during the years he operated the road as receiver he repeatedly drew on his own money to help out the monthly payrolls for employees. This is his side of the story, and we should not be surprised at all if Geo. D. Chapman should so figure out his personal claims against this road amounting to more than $100,000, and perhaps half as much more . . . it is the general opinion that Chapman is not entitled to a dollar more from this road: That he alone is personally responsible for the wretched pass to which it has been brought; that the road was brought to the verge of ruin by his mismanagement and extravagance. . . . George D. Chapman, it is universally, unanimously and anxiously hoped will now be got rid of, utterly and forever . . ."

"If our railroad had from the start been run on such sound business principles as it has been operated on its two end sections by Mr. Mitchell S. Blair, Auditor, and latterly Gen'l. Manager since the last Chapman collapse, the road would today be a valuable property with prosperous business . . ."

Aug. 14, 1891. "At last the new link of railroad at Swains is finished, and on Thursday, Aug. 27th, trains will open traffic over it between Rochester and Hornellsville." And on Aug. 28th, "At last, after years of weary waiting, on Monday morning of this week, at 6 o'clock and 28 minutes, the first regular passenger train over the new line between Hornellsville and the City of Rochester arrived in Nunda village—the forerunner of trains that nevermore shall cease."

May 20, 1892. "Chapman bounced. The referee announces his decision. And paralyzes Geo. D. Chapman. Throwing out over $1,000,000 of his accounts. Total claims allowed, $125,000. Now for a Sale and Reorganization and Reopening of our Road. We have the most gratifying intelligence to announce that Referee James M. Townsend, of New York, has at last rendered his decision . . . this action resulted in a general accounting of all the unsettled affairs of the road. And it appears that Chapman et al. brought forward a great mass of charges against the company aggregating some million and a half dollars . . . the Referee's decision . . . declares that the Chapman claims were and

are illegal if not fraudulent, and they were thrown out . . . all but about $125,000 . . . the sale of this road about to be ordered by the Court . . . the road will be bought by capitalists. This man Geo. D. Chapman never put even so much as one solitary dollar of his own money into the road . . . and yet, by adroit methods in which he is brilliant . . . it may be said a phenomenal expert—he has been able to do for years what he has done in connection with this road. In the year 1889 our Railroad Company issued bonds to sum of $800,000. for the following specified objects, namely: $250,000 to be used in the purchase of the R. H. & L. ten mile stub—a rather fancy price we should say; $250,000 to pay Receiver's debts; and $300,000 for 'betterments' and proposed extension.

"Now, as a matter of actual fact, what did Geo. D. Chapman, acting as Receiver do with the cash he raised on this big wad of printed bonds . . .? It is easier to state what . . . did not do: He did not buy the R. H. & L. He did not build any extension. He did not make any betterments (but instead worsements). He did not pay the Receiver's debts—except $33,000 back pay due employees here; $12,000 due employees in Hornellsville; and $8,000 due the Angelica Machine Shop Co.; being a total of about $53,000—which sum it was compulsory to pay before the road could be reopened . . . the Receiver paid perhaps $150,000 before the workmen again stopped. What did Chapman do with the balance of that big wad?"

A 3-column review of the entire bankruptcy is given in the May 27th issue.

July 29, 1892. The legal name of this road is now Lackawanna and Southwestern. Mitchell S. Blair is appointed receiver, to operate it in whole or in part, until the road is sold.

The Lackawanna and Southwestern disappeared in 1892, being sold under foreclosure, on September 24th, to John Byrne.

The first appearance of John Byrne was mentioned in the August 25, 1892 issue of the *Allegany County Republican*. He was described as a New York attorney, and, with a Mr. Stapler and M. S. Blair, inspected the line; they were well-satisfied.

September 30, 1892. "Victory! Our Railroad at last in the Hands of its Friends. Thanks to Frank S. Smith. Who saved the road from being abandoned. Geo. Dennis Chapman paralyzed. The last tentacle of the octopus cut off. "The Central New York and Western." In spite of a last minute injunction by Chapman et al, the road was sold to the highest bidder, being Frank S. Smith, acting for Major John Byrne of New York, and four others. The sale of the Hornellsville link was postponed to October 18th." October 14th: "the five purchasers bought at a prior private sale all judgments against the road for $151,000." October 21st; "The R. H. & L. was bought by its friends for $27,500, said friends being Mr. Adsit and the Harlan & Hollingsworth Car Co. of Wilmington, Del., J. Taylor Gause, president."

The referee's deed to John Byrne was dated October 18, 1892. By a deed dated November 18, John Byrne conveyed that portion formerly comprising The Lackawanna and Pittsburgh R. R. Co. to The Central New York and Western R. R. Co., the latter being a reorganized com-

pany consisting of the Committee of Purchase and others. The portion of the consolidated company formerly comprising the Rochester, Hornellsville and Lackawanna was sold to individuals; namely, John Byrne and Frank Sullivan Smith.

It has been relatively easy to deduce the numbers of the standard gauge locomotives on the Lackawanna and Southwestern, but the 3-footers are somewhat doubtful. According to the Poor's Manuals, the total number of engines was 9, of which four were narrow gauge. From the state inspector's reports, four of the nine had six drivers and five had four drivers.

From the Shawmut roster it is known that standard gauge engines Nos. 21, 23, 32, and 34, which were new in 1886, lasted until well into the twentieth century. In the local papers of contemporary date, notes about No. 43 (std.) and Nos. 4 and 7 (n. g.) appeared. The four engines with six drivers are Nos. 7, 21, 23 and one other narrow gauge; this would have to be No. 5 or 6,—the former certainly, since it appeared on the Shawmut in 1901. An unsettled question is that no matter which one is included here, where was the other in the meantime? The five engines having four drivers were Nos. 32 and 34, and No. 4 and one other narrow gauge; only No. 1 and No. 2 had four drivers—but nothing has been heard of these since the Lackawanna and Pittsburgh bankruptcy in 1885. Could there have been an error in recording the respective numbers and the totals been interchanged? If so, there would have been five having six drivers (readily accounted for, by Nos. 5, 6, 7 (3-ft.) and 21, 23 (std.), and four with four drivers, Nos. 4 (3 ft.), 32, 34, 43 (std.) This seems to agree best with the facts; it certainly merits serious consideration. The roster has been drawn up taking this into account; details on No. 4, 7, and 43 being so uncertain, are omitted.

During the operation of the R. H. & L. (9-8-1890 to 9- -92) two four-drivered engines were used; these were probably Nos. 32 and 34. The operating of the narrow gauge as L. & P. (11-1-1890 to 7-18-92) also employed two four-drivered engines, Nos. 4 and one other; there is nothing to indicate whether the latter was No. 1 or 2, these being the only engines with four drivers.

Locomotives of the Lackawanna & Southwestern

No.	Builder	C/N	Date	Type	Cyls.	DD	Note	PS&N No.	Scrapped
4	Baldwin			4-4-0			A		
5	Baldwin	5975	1881	2-6-0	14x20	45	A	5	
6	Baldwin	5979	1881	2-6-0	14x20	37	A		
7	Brooks			2-6-0			A		
21	Cooke	1715	1886	4-6-0	18x24	52½		15	5-27-12
23	Cooke	1727	1886	4-6-0	18x24	52½		14	5-1-16
32	Cooke	1721	1886	4-4-0	16x24	63		8	12-31-24
34	Cooke	1726	1886	4-4-0	16x24	63		9	12-31-28
43				4-4-0			B		

Nos. 4-7 were narrow gauge, 3 ft. others were standard gauge.
Note A. See under Allegany Central.
Note B. The "private engine" of Frank Sullivan Smith. Scrapped 1899.

Rochester, Hornellsville and Lackawanna

One of the objectives included in the charter of the first Allegany Central R. R. Co. was to build a connecting link to Hornellsville from their main line between Belfast and Wayland. Since they and their successors were harassed by so many difficulties, including a lack of money, this construction was never realized. On June 9, 1886, the Rochester, Hornellsville and Lackawanna Railroad Co. was chartered under the laws of the State of New York, with a capital stock of $300,000, to build a standard gauge road from Canisteo (just south of Hornellsville in Steuben County) to a point on the Lackawanna and Pittsburgh (in the town of Burns, in Allegany County) approximately 17 miles. In the *Allegany County Republican* for April 11, 1886, it was stated that $60,000 was raised in Hornellsville for this purpose, and, on July 23rd, that the contract for building was taken by the Blake Bros.

There was considerable opposition by the Erie to any new railroad construction in the area; this delayed the actual building for some time. Litigation was protracted, but the Erie lost out. On one occasion they were fined $250, for contempt of court in ignoring injunction papers and tearing up rails laid by the R. H. & L. in Hornellsville; they appealed the decision and again lost.

The construction actually began on Nov. 11, 1887. It was only 10.13 miles long and all easy going except for one 60-ft. trestle, 80 ft. high, near Hornellsville. The cost of the road and equipment was given as $89,903.25. In the *Allegany County Republican* of Jan. 20, 1888, it was stated that last rail had been laid last week, and that the Rochester, Hornellsville & Lackawanna would be opened next Wednesday, Jan. 25th. In the issue of the 27th it was stated that the new line was to be pushed farther southward, into the Pine Creek region of Pennsylvania. The first regular train was run on Feb. 17th, with Ed Mead, conductor, and Lew Ketchum, engineer. The only officials so far located were Charles Adsit, the cashier of the First National Bank of Hornellsville, president, I. W. Near of the same town, secretary, and M. S. Blair as auditor.

From the report of the state inspectors in 1889, the R. H. & L. is "a newly constructed road between Hornellsville and Hornellsville Jct. on the Lackawanna and Southwestern Railroad. It is a single track line about ten miles in length, laid with steel rails, angle bar fastenings and point switches. The roadbed is not very thoroughly ballasted and the superstructure is in ordinary line and surface. The roadway is well enclosed with wire fences having a top board. There are a number of waterways, and one sixty-foot span through pin Pratt bridge, all on good masonry abutments, also one eight-bay pile bridge of strong construction. All openings have a good floor system. Arkport, Burns, Hornellsville Jct. have good frame depots, suitable for local traffic. At Hornellsville is a very good frame passenger depot with covered platform. If properly lined and surfaced this road would be in excellent condition."

On Sept. 14, 1888, all trains stopped running, and the two engines were taken to Hornellsville. By virtue of an arrangement between Charles Adsit and Geo. D. Chapman, receiver of the Lackawanna and

Pittsburgh, also between Adsit and the owners of the R. H. & L., he, as trustee, assumed control of the latter company, and of as much of the road of the former company as lay between Hornellsville Jct. and Wayland, and operated the same as a continuous line under the title "The Rochester, Hornellsville and Lackawanna Railroad, Charles Adsit, Trustee." Such operation was commenced on Sept. 25, 1888, and terminated on Oct. 4, 1889,* when the trust was surrendered. It should be noted that the R. H. & L., by itself, amounted to nothing—it was just a branch.

There was no report for 1888, but for 1889 there was a surplus of $802.11. It carried 19,011 passengers, and 22,136 tons of freight, the mileage of each being 13,650 and 15,730, respectively. Thirty-four persons were employed, receiving $14,725.48 for their services. Taxes were only $65.40!

On Oct. 2, 1889, this road and the first Lackawanna and Southwestern were consolidated to form the second Lackawanna and Southwestern Railroad Co. On Sept. 8, 1890, Mitchell S. Blair was appointed receiver of the L. & S. W. He leased from the Lackawanna and Pittsburgh the segment between Hornellsville Jct. and Wayland, and operated the whole (20.78 miles) under the name "M. S. Blair, Receiver, The Rochester, Hornellsville and Lackawanna Railroad Company." He had two 4-4-0 engines, probably Nos. 32 and 34, three second-class passenger cars, one baggage, twenty box, twenty coal, and fifty flat cars.† Apparently the new road was no more sucessful than its predecessors, for, on Sept. 24, 1892, it (the L. & S. W.) was sold under foreclosure to John Byrne and J. Taylor Gouse of New York City, and Charles Adsit, of Hornellsville; the latter two held the portion formerly R. H. & L. as Tenants in Common. The sales price was $60,000. Mr. Adsit, being in possession of the R. H. & L., road sold his undivided interest to John Byrne, of New York City, and Frank Sullivan Smith, of Angelica, and surrendered the property to them. Since the road was so short and so situated that it could not profitably be operated by itself, the new owners, Smith and Byrne, executed a lease "for term at will" to the Central New York and Western Railroad Co. (of which they were officials!), whose charter authorized it to operate the said railroad; this was done "as owned" in 1894 and "under contract" in 1895. The statement in Poor's Manual that the C. N. Y. & W. succeeded by purchase under foreclosure to the properties of the L. & P., L. & S. W., and R. H. & L. is certainly incorrect as far as the latter road company is concerned. The report given to the Railroad Commissioners states that it was leased. It was also leased from John Byrne and Frank Sullivan Smith by the succeeding Pittsburgh, Shawmut and Northern.

In the official Shawmut list of predecessor companies it is noted that the L. & S. W. was divided, Byrne taking the portion formerly

* In the valuation report, p. 24, the dates are Sept. 30th and Oct. 2nd.

† In September, 1891, trains ran between Rochester and Hornellsville over the W. N. Y. & P., R. N. Y. & P., and R. H. & L., although the L. & P. was not in operation.

Lackawanna and Pittsburgh, while both Smith and Byrne got the R. H. & L. Smith bought Byrne's share from his estate in 1914, thus becoming sole owner; on his decease it came to his widow, who willed it to the American Red Cross, into whose possession it came in 1934. They rented it to the Shawmut for $3,000 annually. With the abandonment of the Shawmut in 1947 the R. H. & L. was also abandoned. The facilities at Hornell that serviced certain industries were taken over by the Erie, which paid $32,000 for them. In a news clipping it was stated that about half the incoming and outgoing freight of Hornell was carried over this line.

Our member, Fred C. Hill, recalls seeing a plate on the tender of P. S. & N. No. 9 (ex-RH&L No. 34) reading "Major Byrne Estate," and an old (1912) boiler inspection report on engine No. 11 was located, on which it was written "owned by Frank Sullivan Smith and the Byrne Estate." No. 11, however, was former Central New York and Western No. 5. The only two engines lettered R. H. & L. were No. 23, a 4-6-0, and No. 34, a 4-4-0. A picture of the "Cannonball" shows No. 34 on the head end. Apparently the engines were used interchangeably with the Lackawanna and Pittsburgh, and Mr. Smith's engine No. 43.

The Interior Construction and Improvement Co.

This company was incorporated under the laws of the State of New Jersey, on July 6, 1889, as a construction company, with an office in the Orange National Bank Building, Orange, N. J. The officers and directors were:—President, Frank P. Byrne, of Detroit; Vice-Pres., George S. Bixby, of New York; Sec'y, Lewis F. Wilson, of Elizabeth, N. J., Treas. (?), Frederick W. Frost, of New York, and Frederick H. Ridgeway, of New York.

It should be noted that this group of men were highly interested in the Central New York and Western, and in the Pittsburg, Shawmut and Northern, all except Bixby holding similar positions on these roads. This company was authorized to do business in New York on April 1, 1899; a "certificate of withdrawal" was filed on Nov. 14, 1904.

It is known * that the interior Construction & Improvement Co. built the Allegany & Kinzua R. R., and arranged the consolidation of the various small roads into the Shawmut; the account of this agreement was given in Bulletin No. 64, page 35.

The charter of the company was forfeited for non-payment of state taxes on Jan. 4, 1910.

Frank P. Byrne, next younger brother of John, was born at Clarysville, Allegany County, Maryland, March 18, 1847. Following discharge from the Union Army, at the close of the Civil War, he worked in his father's coal mines in Maryland, then joined his brother Major John Byrne in Cincinnati, with whom he was associated in the building of the Chesapeake & Ohio Railroad from Cincinnati to Huntington.

As head of the Interior Construction and Improvement Company, which he organized in 1889, Mr. Byrne was in charge of the develop-

* Included in the obituary of Henry S. Hastings.

ment of the Shawmut Coal Company and the building of the Pittsburg, Shawmut & Northern Railroad.

He was a director of several banks and businesses, and a strong club man. He died on June 11, 1926.

(This information was supplied by Mrs. Elleine H. Stones, Chief, Burton Historical Collection, Detroit Public Library).

Clarion River

The Clarion River Railway Co. was chartered under the laws of Pennsylvania on Dec. 17, 1889, to build a standard gauge railroad from Hallton to Carman station on the Buffalo, Rochester & Pittsburgh, and to the Ridgway and Clearfield R. R., a distance of 12 miles. (The R. & C. R. R. (now PRR) extended from Ridgway to Falls Creek. Croyland was the junction point). Under the charter the capital stock was set as $120,000, but when it first appears in Poor's Manual of Railroads in 1892, this is listed as $50,400. In 1916-1920, the Shawmut carried this at a book value of $180,000.

The officers and directors were as follows: President, W. H. Hyde, of Ridgway; V. P., J. K. Gardner; Sec-Treas., J. K. P. Hall, both of Ridgway; General Manager & Solicitor, H. A. Hall, of St. Marys, and Andrew Kaul, of St. Marys, Wilson Kistler, of Lock Haven, and W. H. Osterhaut, of Ridgway.

The superintendent was B. E. Wellendorf, of Ridgway. Later on, David H. Jack Bradford became a director. J. K. P. Hall was a very prominent resident of St. Marys. Besides his business interests, he was connected with many railroads. He was president of the New York, Lake Erie and Western Coal & Coke Co., Brockwayville & Daguscahonda, Daguscahonda & Elk, Brockport and Shawmut, and Kersey Railroad Cos.; vice-president and secretary of the Buffalo, St. Marys and Southwestern; and secretary of the St. Marys and Southwestern.

Like the St. Marys and Southwestern, the Clarion River Railway began as a lumber road, operated at first by the Hall, Gardner Lumber Co.; the latter developed into the large Hall and Kaul Co. of St. Marys. The railroad was built along the banks of the Clarion River, which here flows in a general westerly direction. At Carman it crossed over the tracks of the Buffalo, Rochester & Pittsburgh, the mouth of Toby Creek, and the tracks of the Pennsylvania Railroad on a long (400 ft.) wooden trestle, turning south and coming down to a grade connection with the P. R. R., at Croyland. A spur track, 400-500 yards long, ran down to connect with the B. R. & P., at Carman. The two stations were about a mile apart. The trestle was dismantled about 1938-1940. There was a five-span wooden bridge over the Clarion River between Arroyo and Portland Mills; this was replaced by a steel structure in 1913. The latter was scrapped, along with the Shawmut lines in 1948; at this time the ties were oak. In addition, there were three other bridges and fourteen trestles, having a total length of 1200 ft.

The road was opened toward the end of 1891. Five miles between Arroyo and Hallton were put into operation this first year, and construction was completed the following year. First year statistics follow:

cost of road, $46,572.90. Cost of equipment (there was one engine, one passenger, and ten freight cars), $4,205.25. Passenger receipts, $378.46; freight receipts, $1,515.40. The cost of the completed road was $137,011.69, and of equipment (one additional locomotive and one passenger car) $15,853.54. It seems as though "equipment" must include something besides rolling stock! Salaries amounted to $10,571.18. By 1897, two freight cars had disappeared, and there were 26 employees. In 1894, C. W. Stewart was appointed Auditor, and, in 1895-6, Andrew Kane, of St. Marys, was elected a director.

The Clarion River appears to have always been a moneymaker, so was solvent and never in bankruptcy, even when under control of the Pittsburg, Shawmut, and Northern.* The figures for 1894 are representative. During this period, the road carried 53,847 passengers for which they were paid $2,996.20. They transported 60,463 tons of freight, for which they received $23,282.28. Their total income was $26,278.48.

In 1898-9 there were new officers. This change represented the entry of the Shawmut, for the Clarion River was leased when the Pittsburg, Shawmut, and Northern was organized on August 2, 1899. It had been intended to include the Clarion River Ry. in the consolidation that formed the Shawmut, but by a mistake the Mill Creek Valley R. R. was included instead.

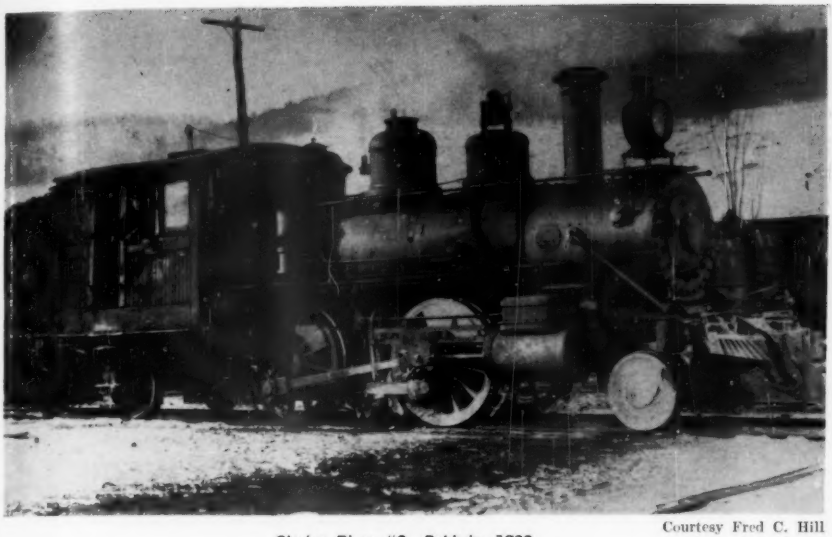
The stations on the Clarion River, taken from a 1906 timetable, were:

0.0	Croyland	
1.0	Carman	
2.3	Portland Mills	
3.3	Bear Creek	f
5.8	Bridge	f
7.0	Arroyo	
9.8	Irwintown	f
12.0	Hallton	

There were three trains each way daily, and one each way the last thing at night and first in the morning between Croyland and Portland Mills. In 1902 there was an additional train each way between Croyland and Portland Mills.

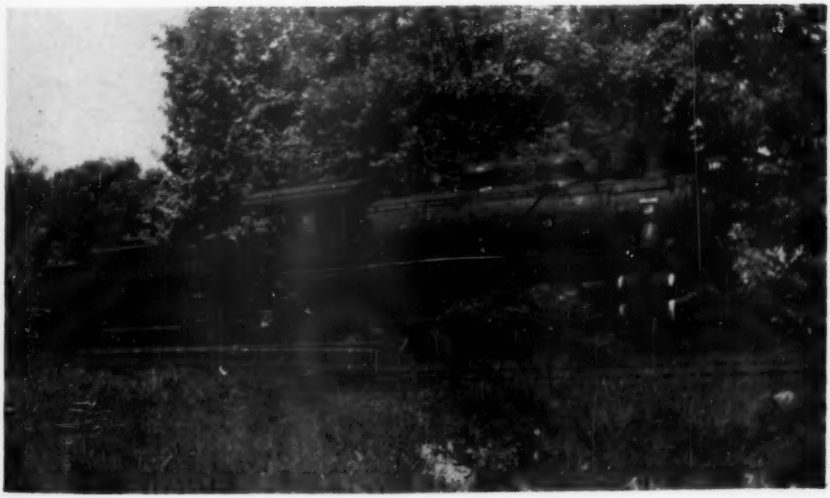
The longest of the four bridges on the Clarion River Ry., the one at Carman, that carried the track over the Buffalo, Rochester & Pittsburgh, the Pennsylvania, and Toby Creek, was burned about the first of May, 1903. Portions of a letter from the Shawmut General Freight Agent to Frank Sullivan Smith discuss the temporary connections in use and advance the arguments for rebuilding. Mr. Nugent was able to salvage considerable correspondence on the subject, and has supplied me with extracts from the letter, and other useful details. Letter to Smith: "The wooden bridge connecting our Clarion River Division with the P. R. R. and Erie R. R. at Croyland was destroyed by fire about May 1st, 1903, thereby breaking our connection with those roads at that

* See comments of Mr. Golden.



Courtesy Fred C. Hill

Clarion River #2. Baldwin, 1892.



Clarion River No. 119. Baldwin, 1891.

point. Since that date, traffic going to and coming from our Clarion River Division via P. R. R. or Erie R. R. has been handled by the B. R. & P. Ry. from Carman to Carman Interchange, a distance of about two miles, where the B. R. & P. Ry. makes connection with the Penna. and Erie Roads. At first we moved the traffic with our own power over the B. R. & P. to the P. R. R. and Erie R. R. from our Clarion River Division, on a detour charge, this being a temporary arrangement. Reconstruction of the bridge was delayed and the B. R. & P. Company, believing that we did not intend to rebuild the bridge, notified us that they would not permit our arrangement to continue, advising that they would handle our traffic on their own trains on basis of 15 cents per ton, minimum of 15 tons per carload, Carman to Carman Interchange. This latter arrangement is still in effect, and the expense to our company for having the traffic handled in this manner, May 1st, 1903 to February 1, 1905 is $7850.00 . . .

"From information which I have gathered personally, the life of the business on the Clarion River Division will certainly justify the building of the bridge with the least possible delay. In the first place we shall have at least five years of prosperous business on that division which is not likely to show any decrease from the year 1904, which amounts to $63,109.25, which is the revenue on 117,000 tons per year . . . And in addition to this a conservative estimate of business from the Tionesta Valley Ry. at Hallton, is 400 carloads per year on which our revenue would be $1,500.00 per year for a period of at least five years. . . . 1904, to the Erie R. R. and Penna. R. R. 78,218 tons and to the B. R. & P. 49,595 tons."

At this time the B. R. & P. was laying second track, and claimed that one of the Clarion River bridge abutments was actually on the B. R. & P. right of way; there was considerable correspondence on this point. The B. R. & P. claimed a 100-ft. width, while the Shawmut said it was only 60 ft.

The new bridge was to be composed of three spans, over (1) the P. R. R., (2) Toby Creek, (3) the B. R. & P., plus a lot of trestle work. The span over the P. R. R., 70 ft. long, was the old Shawmut bridge that had formerly crossed the Erie at Swains. The span over the B. R. & P., 130 ft. long, was purchased from this road for 2 cents per pound, delivered to Carman; it was former B. R. & P. bridge No. 134 which had been removed from a few feet south of the Main St. crossing in Bradford. Another second-hand bridge, either B. R. & P. (unidentified) or D. L. & W. (at Waverly), 96 ft. long, spanned Toby Creek. There were 240 ft. of trestle, and 40 ft. of abutments, making an end-to-end total of 576 ft. The entire replacement was completed toward the end of 1905.

On the Pittsburg, Shawmut and Northern map for 1902, the Clarion River is joined to the Shawmut by a broken line, indicating a contemplated connection; the isolated segment would, thus, become a branch of the main line. The nearest Shawmut point was at Drummond, which was reached over the leased line of the Erie (the Shawmut owned the line between Drummond and Horton City), but on account of the nature of the terrain the junction was to be made near Dagus or Centerville.

At one time only seven miles of track would have been needed to connect the Clarion River and the Shawmut. There was an old road out of Shawmut that belonged to a lumber company that was at one time owned by the Shawmut, and the right of way was cleared for some distance east of Carman . . . the seven miles would have consisted of two high bridges, two miles of steep upgrade, and then five miles of steep downgrade to Carman.

On July 21, 1926, the Shawmut sold the Clarion River Railway Co. to the Tionesta Valley Railway Company, a logging road with which it connected at Hallton. In January, 1927, the Interstate Commerce Commission authorized a lease to the Tionesta Valley for five years, and thereafter until terminated by a six months' notice by either party, at a rental sufficient to cover taxes, assessments, and capital charges, with an additional cash payment of $10,000 each year. The rental was not to exceed 6% on $40,000, the amount paid by the owners of the T. V., (the U. S. Leather Co., later, Central Leather Co., and Central Pennsylvania Lumber Co.) to acquire the stock; it owned $119,100 out of the $120 000. On February 8, 1927, a modifying lease was drawn up, reducing the cash payment to $2,400 per year.

The officers and directors follow: President, P. M. Newman, of Williamsport; V. P., W. C. Mitchell, of New York; Sec'y & Auditor, W. H. Hough; Treas., W. C. Ziegler, both of Williamsport; Z. T. Jones, of Ridgway, J. P. Newman and L. C. Warren, both of Williamsport.

The net income for the year, ending December 31, 1926, was $982.

The Clarion River was a standard gauge road, while the Tionesta Valley had a gauge of 3 ft., between Sheffield and Parrish, and was standard from the latter point to Hallton. A third rail was laid between these two points about 1913. In order to obtain motive power (the Clarion River owned but one combination car and one service car, using freight cars obtained from the B. R. & P. at Carman on a per diem basis) the Tionesta Valley rebuilt their Heisler engine No. 19 (which had been purchased new in 1916), using a set of standard gauge trucks; these were built and installed at a cost of over $7,000. They did not paint out the initials or change the number. In 1935 they used their No. 17 (sc. 1941) transferring the standard gauge trucks to it from No. 19.

A timetable in the 1934 *Railway Guide* shows two trains each way, daily except Sunday. According to the 1942 *Guide,* the road was operated between Carman and Hallton for freight, express and mail only.

About 1935, the Central Pennsylvania Lumber Co. finished their operations in the area, and the Tionesta Valley obtained permission to abandon the Clarion River and their own track between Hallton and Sheffield (connection with the B. & O.) former 3-ft. gauge line, (Kane to Butler). Meanwhile the Clawson Chemical Co. had gone to considerable expense to build a wood distillation plant at Hallton, shipping 50-60 cars per month; in order to have an outlet they were forced to take over the railroads buying them in at scrap value. The plant was on the T. V. tracks, but a third rail had been laid so standard gauge cars could be moved in. The lease of the C. R. to the T. V. was cancelled on

June 1, 1938. The office of the road was moved to Ridgway; there were but seven stockholders.

Final ownership of the C. R. rested in the Susquehanna Chemical Co., who bought out the Clawson Co. in 1946. The Susquehanna Chemical Co. also owned the Tionesta Valley, the second Valley (see Bulletin 80, p. 85), and the Susquehanna and New York Railroad Companies.

At this time the officers were: Pres., P. C. Crowen, of New York; V. P., S. P. Kelly, of New York, (both held the same offices on the Valley R. R.). Sec.-Treas., N. G. Sixt, of Bradford.

The C. R. was abandoned in 1948.

In its early days the Clarion River had two locomotives, presumably numbered 1 and 2 No record of No. 1 has been located, but No. 2 was a Baldwin; it was very popular with the employees, and was known as the "Two-Spot." It was used all over the system after the consolidation, being replaced on such occasions by some other engine, sent down from St. Marys. Frank Sullivan Smith frequently called upon it to take his private car No. 99, while it was used on C. L. Lathrop's telegraph work trains on Sundays. It was never lettered in the P. S. & N. series, because the Clarion River Ry. was solvent, and never in receivership. This engine was brought north * during the construction of the standard gauge link between Bolivar and Angelica in 1902-3. It hauled the first train over the completed line. The *Bolivar Breeze* for November 26, 1903 made these comments: "The first train over the Shawmut Line from Hornellsville to Olean was run last Thursday, November 19. It was a special consisting of engine No. 2 and a passenger coach. The only passengers were Major John Byrne, President of the Shawmut Line, Col. Frank P. Byrne, President of the Interior Construction & Improvement Co. and Engineer McComb. The party was on a tour of inspection and pronounced themselves as well pleased with the progress of the work. The train passed through Bolivar about 6:00 P. M., passing the regular at White House and arriving in Olean at 7:00 P. M. On Friday the trip was continued to Mt. Jewett and the train returned to Bolivar Friday evening, leaving here for Hornellsville on Saturday morning. George Cooper was engineer and Edward Pettibone, fireman."

The *Allegany County Advocate* for December 3, 1903, records these details of the construction: "Clarion River engine No. 2 has been assigned to duty in the construction work on the Wayland and of the Shawmut. This week they are widening the big cut just the other side of Stony Brook Glen. Work has been in progress for several weeks making the connection between the Shawmut and Erie at Hornellsville and is now practically completed. Two very long sidings have been laid in the old Lehigh yard."

Engine No. 119 was a white elephant; it was too heavy for the rails, and, when run backwards it jumped the track. Since there was neither a turntable nor a wye on the Clarion River, it was necessary to run backwards one way.

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* Since there was no physical connection between the C. R. and the P. S. & N., this necessitated a circuitous route, probably via the Pennsylvania RR.

The first No. 55 was a "doodle bug" made by the T. V. forces; it was used to take school children, mail and express. The second No. 55 was a rail motor car capable of hauling three freight cars. It was built by the Brookville Locomotive Works, in 1940, as a Rail School-bus, powered by a Ford engine.

Clarion River Roster

No.	Builder	C/N	Date	Type	Cyls.	DD	Notes
1							No data
2	Baldwin	12974	1892	2-4-4T	16x24	56	A
17	Heisler		1916	0-4-4			B, D, E, F
19	Heister			0-4-4			E, G
55	There were two gas cars having this number; see text.						
119	Baldwin	55031	1921	4-6-0	21x26	66	B, C, D

A. Sc. 12-31-26.
B. Abandoned in woods at Carman, Pa.
C. Built for Huntington and Broad Top Mountain—their No. 35. Subsequently sold to the Susquehanna & New York, and renumbered 119.
D. Lettering added—Susquehanna Chemical Co.
E. These originally had a 3-ft. gauge.
F. To Clarion River in 1935.
G. To Clarion River in 1926.

Since the Clarion River was primarily a lumber road throughout its existence, a brief account of the various companies concerned is of considerable interest. I am indebted to Charles W. Golden, of Hallton, for most of the information. Mr. Golden was hired in 1910, by the Shawmut general superintendent, B. C. Mulhern, to be the joint freight agent at Hallton for the Pittsburg, Shawmut and Northern and the Clarion River Railroads; the Tionesta Valley R. R. had an agreement which gave them station service at Hallton. He eventually became agent for the Tionesta Valley and the Adams Express Co. In 1936 he was appointed postmaster at Hallton; as there was no longer any passenger service he partitioned off a part of the former waiting room for a post office. He retired in 1945, after 36 years of service with the railroads. He has described his own experiences and the conditions in the lumber industry so well that they are reproduced here.

"Lumber operations were under way by the Central Pennsylvania Lumber Co., Rib Lake Lumber Co., Elk Tanning Co., and Union Tanning Co.; all these were controlled by the U. S. Leather Co., (the name of the latter being changed about 1917 to the Central Leather Co.) In 1910 lumbering was going on along Big Run and Pigeon Run, using a standard gauge logging road. The logs were hauled to Parrish (about 8 miles beyond Hallton) and at that point were transferred by a log loader to narrow gauge cars, which were then hauled 20 miles to a large mill at Sheffield. All bark was loaded on a standard car furnished by the Clarion River at the woods jobs and brought out to Hallton, and thence to the various tanneries throughout the country. I have handled as high as 30,000 tons of bark over the C. R. Ry. scales in one fall, doing all the weighing, then billing it to Hallton from the woods, and rebilling to its destination. The chemical plant ordered its cars

through me, and I, in turn, would order them from the B. R. & P., now B. & O., and P. R. R. as wanted. This would run as high as 60 cars per month.

"During the first World War the Tionesta Valley Ry. took over all the rolling stock of the Central Pennsylvania Lumber Co. and operated all the transportation business. The T. V. standard gauge engines were Shays, and ran on the Hallton end; the narrow gauge engines were a mixture of various types, such as Heislers and Climaxes for freight and logs, and rod engines for the passenger run between Sheffield and Hallton.

"I believe that at that period it was a regular woods routine for a jobber who had finished at one location to move to a new area, taking up the old rail and relaying it on the new job. This practice caused trouble for the T. V. since it was a regularly chartered railroad, operating under regulations of the Interstate Commerce Commission; according to the rules, rail laid at one place could not be taken up for two years. Since, in lumber operations, with several jobbers and workings, rail had to be moved frequently, it would cost too much to lay new rail each time. Accordingly, the railroad turned all the rolling stock back to the lumber company as soon as they could.

"As weighmaster, I had to bill the freight from the originating point to Hallton, and thence to its destination, routing it via either the B. & O. or P. R. R.

"In 1926 the Shawmut noted that the business was waning, and obtained permission to abandon the Clarion River operations. It, thus, became necessary for the Tionesta Valley to take over the Clarion River, in order to retain an outlet to the nearest standard gauge at Carman, or else haul the freight all the way to Sheffield for transfer, at a considerable cost not covered by freight rates. The T. V. took over in August, 1926. I was never fired or rehired, but just kept on working, with the paychecks coming in regularly; apparently I was sold along with the road!

"The Central Leather Co. (parent of the T. V. Ry.) operated the road for a few months, and then leased it to the T. V., who operated it as the Clarion River Railway Division of the Tionesta Valley Railway, Lessee. In the course of time, the lumber petered out; the T. V. had only the chemical business left, so they, in turn, obtained permission to abandon not only the former Clarion River, but also their own narrow gauge line to Sheffield Jct. (about 18 miles). Since the narrow gauge was essential for transporting what wood there was from the forests, it was not up to the Cartwrights to take the roads over, if they wished to continue their operations.

"The Cartwrights, B. E. and R. A., were brothers. B. E. was connected with the Shawmut Coal Mining Co. and operated stores in their mining towns. The St. Marys and Southwestern Railroad was hauling lumber to the big Hall, Kaul & Hyde Mills at St. Marys. To B. E. Cartwright was entrusted the commission of selling the Hall, Kaul & Hyde interests (railroads and mines); any deal was also to include the Clarion River Ry. He went to Boston and New York, finally

obtaining the interests of financiers in the latter city. The story goes that he chartered a private car, brought them to St. Marys, and took them over the lines. Everything was humming for their benefit; mines were running full blast, and coal trains were sidetracked along the route. The sale was made and B. E. received a large commission. In addition, his instructions had been to get at least $150,000 for the Clarion River, with anything over to be retained by himself, which current opinion said, was considerable."

Mt. Jewett and Smethport

The Mt. Jewett and Smethport R. R. Co. was organized on May 23, 1892, under the laws of the State of Pennslvania, with a capital stock of $150,000 (of which $52,875 was paid in), to build a 5-mile standard gauge road between Mt. Jewett and Hazelhurst. The officers and directors were as follows: President, Benjamin F. Hazleton, of Bradford; V. P., A. L. Hazleton, of Cambridgeboro; Sec'y, Frank P. Hazleton; Treas., Edwin E. Tait; both of Bradford, J. L. Brown, of Wilcox, and Edwin F. Clark, of Bradford.

Benjamin F. Hazelton was born at Machias, N. Y. on Mar. 26, 1847, and raised in Erie County, Pa., where his father lumbered and raised stock. At the age of 8, he drove loads of lumber to Erie (16 mi.) over dirt roads. When he was 14, he went to Rousseville on Oil Creek and, as assistant to an oil well driller, helped drill oils by horse power; he was present when the famous Rouse well was struck and burned, Mr. Rouse losing his life. At 19, he married the daughter of the assistant state treasurer. Five years later he had charge of the grading and stone work on the Madison Division of the Chicago and Northwestern Ry. He was given a train to run but soon resigned and entered the lumber firm of J. W. Woodruff & Co., at Green Bay. He went to Bradford, Pa., in 1878, as foreman of that company's Bradford mill on the west branch of Tune Creek. Part of the business was to supply rig timbers to the oil fields. He and his brother soon bought out this company branch. In 1884 he built, managed and partly owned the West Branch out of Bradford until the Erie bought the road.

In 1885 he secured a large tract of timber at Glen Hazel, in Elk Cty., built a mill on the Penna. R. R., and a railroad to the Erie system and B. R. & P., and built a town with a hotel. There was a large mill, too; altogether, he employed 150-300 men, according to the season. In 1892 he came to the operations at Hazelhurst, which settlement he founded, and built the Mt. Jewett and Smethport R. R. In 1903 the Shawmut built their road to Smethport and took over Mr. Hazelton's road; the part, Hazelhurst to Mt. Jewett, was abandoned in Feb., 1918.

Tait (E. E.) and Jones (Evan J.) was a law firm in Bradford, Pa., until Tait's son, Edgar W., also became a lawyer, when it became Tait & Tait. This firm acted as general counsel for all the Shawmut interests in Pennsylvania.

The main feature of construction on the Mt. Jewett and Smethport was a switchback about one and a half miles west of Hazelhurst. This was necessary to get from Mt. Jewett on the Big Level (see Bull. No. 76,

p. 41) down to the surrounding country. The elevation of the principal places are as follows: Mt. Jewett, 2195 ft.; Hazelhurst, 1716 ft.; Marvindale, 1608 ft. The distance between the two switches was about a mile and a quarter. There were also four trestles, having a total length of 105 ft., in the Mt. Jewett and Smethport.

It connected with the Erie and the Buffalo, Rochester & Pittsburgh at Mt. Jewett; interchange was also possible with the Mt. Jewett, Kinzua and Riterville, and with the two narrow gauge roads there.

Mr. Roscoe Davis, of Mt. Jewett, stated: "When the B. F. Hazelton-Shawmut lumber interests decided to build to Mt. Jewett to connect with the Erie, B. R. & P. and other roads entering that place, they had two possible routes open, viz., the west and northwest branches of Marvin Creek. The south side of the northwest branch was occupied by a highway (now U. S. Route 6), while the north side would have required a sizable bridge across a valley coming in from the north, in order to make the grade to Mt. Jewett. Since Mr. Hazelton already had a lumber road part way on the west branch they chose to make the switchback and a mile and a half longer route, making a total of five and a half miles from Hazelhurst to Mt. Jewett.

According to Poor's, the Mt. Jewett and Smethport had two locomotives. One was a Shay, Lima Constr. No. 395. This number was also used as the engine number. It was sold on 7-29-93 to B. F. Hazelton; 11 x 12, 29½, std. gauge. Its last owner was the Kendall Lumber Co. It was scrapped on Feb. 12, 1920.

The other of the two locomotives was presumably the 4-4-0 that was Mt. Jewett, Clermont and Northern No. 1. This was a Rogers engine obtained from the P. R. R.; it had 54-in. drivers. It was driven by engineer DeShelter on the work train during the building of the Shawmut extension to Smethport.

The cost of the Mt. Jewett and Smethport was given as $43,547.15, and of the equipment, $10,299.72. As of 1894, the rolling stock comprised one locomotive, one passenger and 16 freight cars. There were 70 employees, who collected $6,381.45 for their services.

During the year (1894) mixed trains only were operated 10,190 mi., at an average speed of 10 mi. per hr. They carried 1,349 passengers, for which they were paid $13,199.13, and moved 53,479 tons of freight, for which they received $12,165.27. During the year 1895-6 the road was extended 2.6 mi. to Gallup (later called Marvindale). The total trackage was now 10.54 mi.

The total earnings (or income) for a number of years follows: (1892-3), $5,896.75; (1893-4), $12,605.05; (1894-5), $15,739.33; (1895-6), $14,483.35; (1896-7), $16,439. It appears evident that this short road was able to make money.

Central New York and Western

The Central New York and Western Railroad Co. was incorporated on Nov. 18, 1892, with 10,000 shares, par value $1,000,000, as a reorganization of the bankrupt second Lackawanna and Southwestern R. R. Co. The portion, formerly Lackawanna and Pittsburgh, had been sold to

John Byrne, of New York, who, on November 19, 1892, conveyed it to The Central New York and Western. The latter operated the privately owned Rochester, Hornellsville and Lackawanna "as owned," and "under contract."

That part of the newly-formed Central New York and Western road in operating condition was as follows: (standard gauge), Wayland to Hornellsville, which was the only important part, 22 miles; Hornellsville Jct. to Angelica, 25 miles; (3-ft. gauge) Olean to Bolivar, 18 miles; right of way but inoperable, Bolivar to Angelica, 21.74 miles, and Angelica to Belfast, 6½ miles. If the leased 12-mile Swain's branch of the Rochester, New York and Pennsylvania (Swains to Nunda Jct.) is included, the whole amounts to 105 miles.

Shortly after its formation the Lackawanna and Southwestern had discontinued operation of the narrow gauge line between Angelica and Bolivar and removed the rails, though retaining title to the property. Connection between Angelica and Olean had been made using the standard gauge portion to Belfast Jct., from which point the road had trackage rights over the Western New York and Pennsylvania; this was the old route taken by the famous "Cannonball" of the Lackawanna and Pittsburgh. In October, 1890, the Lackawanna and Southwestern had abandoned the line from Angelica to Belfast Jct., cancelled the trackage rights over the W. N. Y. & P. to Olean, and forfeited the lease on the Swains branch by failure to operate it. The narrow gauge from Olean to Bolivar was still operated.

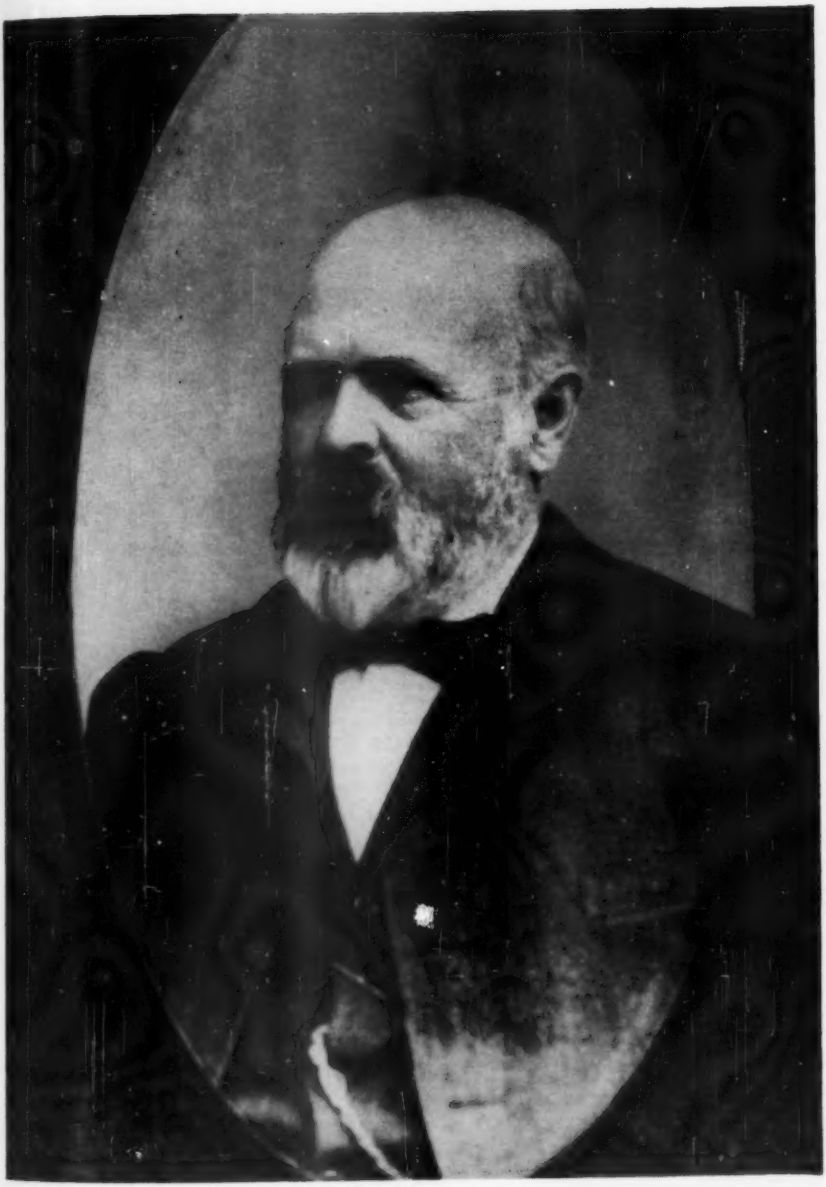
The permanent way, structures and equipment of the newly-formed road were badly deteriorated; they were expected to be improved after a bond issue. It should be noted that money was tight, for this was the period of the 1893 panic; as will be seen, the new road was continually in bad shape and in need of funds to recondition their property. It is remarkable that they survived at all when the small amount of traffic they could anticipate is considered.

The rolling stock, listed in Poor's Manual for 1893, where the road is reported for the first time, comprised 11 locomotives, 3 passenger cars, 8 baggage and express cars, and 334 freight cars (118 box, 116 flat, and 100 coal).

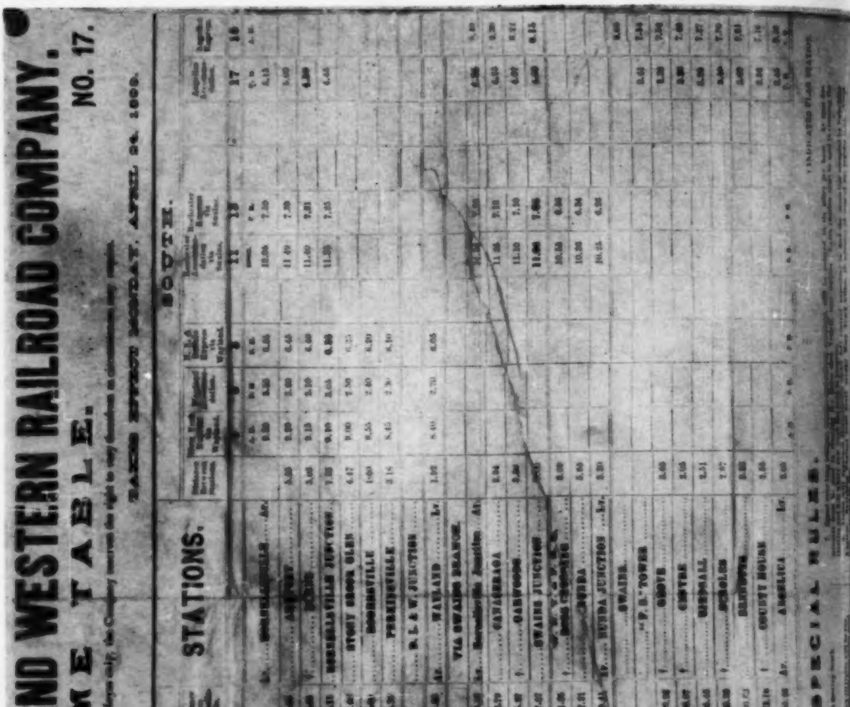
The officers and directors were as follows: President, John Byrne, of New York; V. P., Frank S. Smith, of Angelica; Sec'y, Lewis E. Wilson, of New York; Treas., Camille Weidenfeld, of Orange, N. J., Auditor, Henry S. Hastings, of Angelica, and C. Walter Artz, Stephen A. Lathrop, Percy W. Sherman, all of New York, F. P. Byrne, of Detroit, Logan C. Newsome, of Columbus, O., John S. Rockwell, of Angelica, Clarence M. Smith of Rosebank, N. Y., and Wm. M. Smith, of Brooklyn, N. Y.

The General Manager was John Byrne; general freight and passenger agent, Charles H. Hammond, of Hornellsville; and superintendent of the road was Mitchell S. Blair, of Angelica. All the officials were new to the road except F. S. Smith.

Major John Byrne was born in Maryland in 1846. His early life is unknown. At the outbreak of the Civil War, when a mere youth, he



Mitchell S. Blair


CENTRAL NEW YORK AND WESTERN RAILROAD COMPANY.

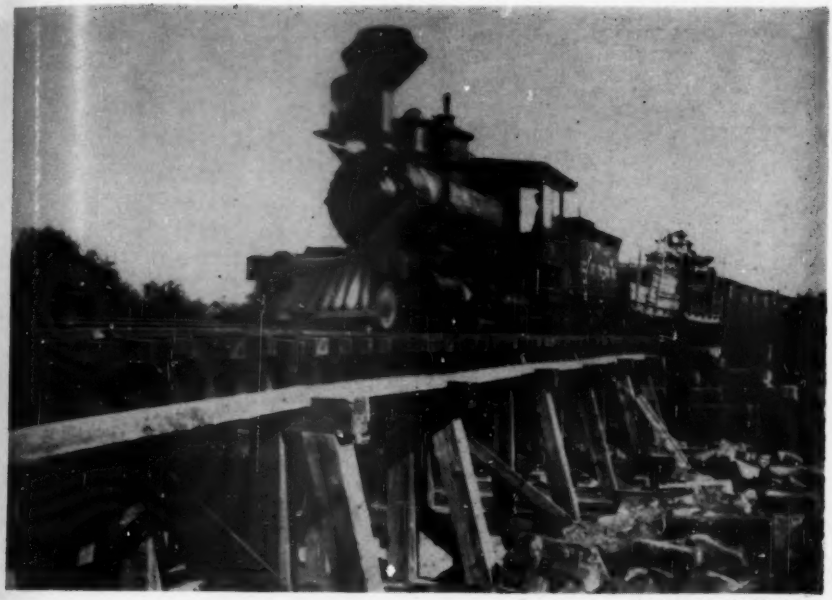
NO. 17. TIME TABLE. NO. 17.

NORTH. STATIONS. SOUTH.

SPECIAL RULES.

Courtesy R. G. [illegible]

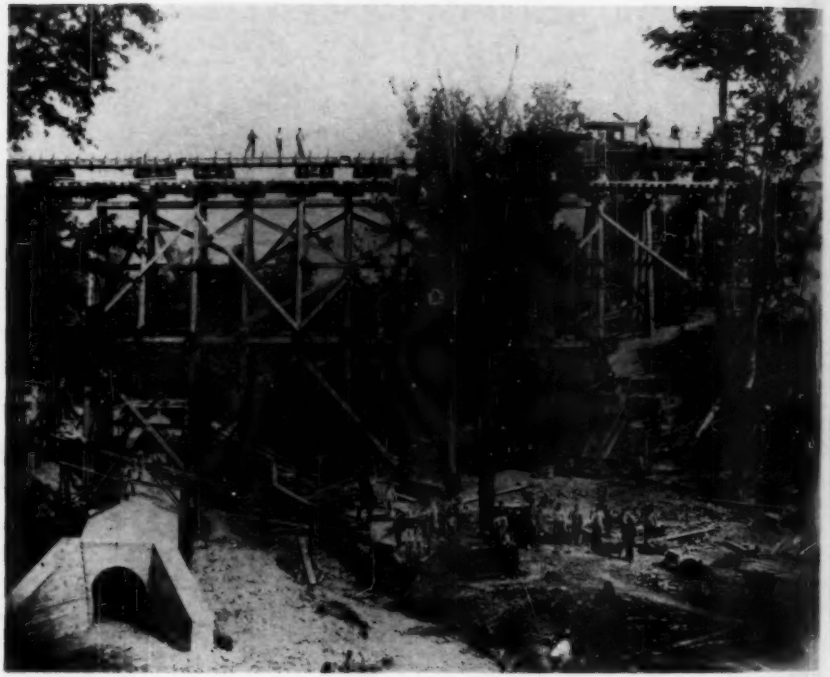
C. N. Y. & W. timetable of 1899.



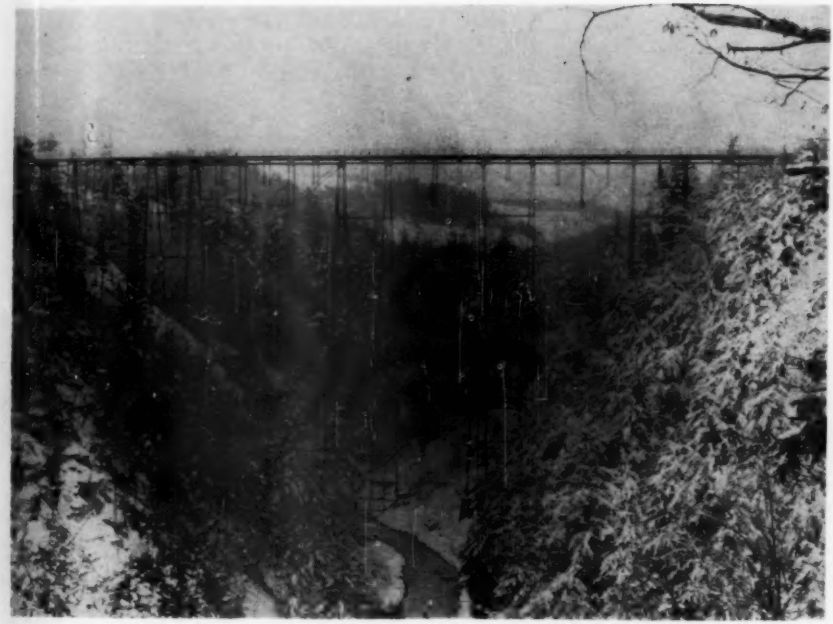
Courtesy D. H. Kirkwood

C. N. Y. & W. #5 (3 ft. gauge) Baldwin 1881.

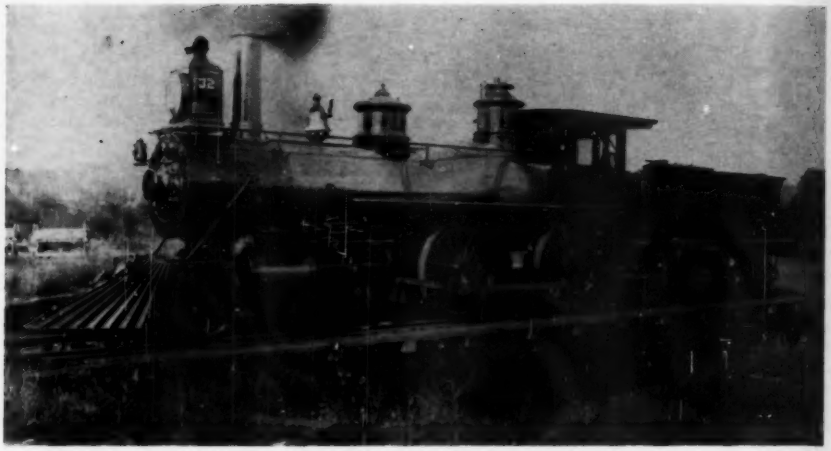
Filling the horseshoe trestle at Swains, N. Y. on C. N. Y. & W. R. R.



Central New York and Western R. R. Trestle #49 prepared for filling.



Stony Brook Glen bridge in winter of 1898. 240 ft. high, 700 ft. long.



Central New York and Western R. R. #32. Angelica shops 1892.

Courtesy O. L. Lathrop

Wooden station at Angelica, N. Y. Blt. by C. N. Y. & W., 1895, burned about 1909.

entered the Union service and throughout the war "displayed the noblest qualities of a soldier and his comrades recount numerous accounts of his heroism," i.e., he served with distinction in the army. For over 20 years he was identified with the railroad operations of C. P. Huntington (Central Pacific man). He was president of the Central New York and Western, the succeeding Pittsburg, Shawmut and Northern, the Shawmut Mining Co., and the Kersey Mining Co. He was one of the first directors of the Allegheny & Kinzua Railroad Co. (of which Frank Sullivan Smith was also a director, Camille Weidenfeld, treasurer, and Lewis F. Wilson, secretary; these associations were continued on the C. N. Y. & W.) He was president and director of the Detroit City Gas Co., and a trustee of the Emigrant Industrial Savings Bank of New York.

Mitchell S. Blair, the son of the Rev. Tyrrell Blair, a Presbyterian minister, was born in Durham, Green Cty, N. Y. on December 15, 1838. When the boy was 13, his father accepted a call to Angelica; the father died five years later. Mr. Blair was in the flour, grain, and feed business for many years. His first railroad connection appears to have been an auditor of the Allegany Central in 1882. In 1884 he became the assistant treasurer and auditor of the second Lackawanna and Pittsburgh. He was agent for George D. Chapman, receiver of the Lackawanna and Southwestern. He then became general superintendent, first of the Central New York and Western, and then of the succeeding Pittsburg, Shawmut and Northern.

Henry S. Hastings was born in Wellsboro, Pa., on Feb. 18, 1866, and died in New York on Dec. 13, 1923. He was connected with railroads from the start; in 1884 he was a clerk in the auditor's office of the Lackawanna & Pittsburgh; in 1890 he was an agent of the Interior Construction & Improvement Co., who built the Allegany & Kinzua (and later the Shawmut). From 1892-1899 he was auditor and general agent for the Central New York and Western; in early 1899 he was auditor and assistant treasurer of the C. N. Y. & W., and also the Buffalo, St. Marys and Southwestern. He continued on the Shawmut, being auditor and asst. treasurer to 1920, when the office of comptroller was added. From 1909 to 1916 he was treasurer and auditor of the Pittsburg & Shawmut, and the Allegheny River Mining Co. On Nov. 6, 1920, he was appointed a co-receiver of the Shawmut, and on the death of Frank Sullivan Smith became sole receiver of this road and the two mining companies. At first he was auditor and treasurer of the Shawmut Mining Co., the Shawmut Commercial Co., and Kersey Mining Co., later becoming president of these as well as the Shawmut Coal & Coke Co., Clarion River Ry. Co., Kersey R. R. Co., Shawmut Holding Corpn. of N. Y., Shawmut Realty Corpn. of Pa., and treasurer of the Byrnedale Coal Co.

Clarence Lapham Lathrop (son of Christopher Columbus Lathrop) was born in Pike, N. Y. on Jan. 23, 1874. His first job after finishing school was as editor and publisher of the Pike Gazette for one year, starting on Nov. 23, 1888. Railroad work being more attractive he became a telegraph operator for the Lackawanna & Pittsburgh at

Friendship; he was then agent at Stony Brook Glen and Arkport. In 1892, he became secretary to Supt. Blair at Angelica, and then station agent. He temporarily tried his hand in groceries, in 1896, but returned to the now Shawmut line as agent at Angelica, in 1901. In 1906, he was appointed Superintendent of Telegraphs and Signals, and, in 1924, Real Estate and Claim Agent. At the moment of writing (1950) he is still active in politics, and in disposal of the real estate of the defunct Shawmut line.

At this point it will be very informative to look over the 1893 report of the state inspector for the Railroad Commissioners of New York (Vol. 1, pp. 263-6). It should be noted that this board reported the Lackawanna & Pittsburgh to be in excellent condition in 1883, then in a very poor state in 1890 under the Lackawanna & Southwestern; now there is some improvement.

The State Inspection Report on the C. N. Y. & W., for 1893, discloses, among other items, that fences along the right of way are fairly well maintained. The track is generally good, except that ballast is needed. The line is of 56-lb. steel rail. There are a number of decayed ties, and warning signs are in bad condition. "There has been great improvement since September, 1890, at which time the present company began operating. The road was greatly run down. Much work is needed yet to place it in fair condition."

Stub switches are still in use, and much ditching is needed. The bridges are generally in bad state of repair, and it is noted that the "Howe truss bridge over the N. Y. L. E. & W. (at Swain's) has become too old for absolute safety." Water barrels, for fire protection, are all empty on all trestles. Trains move across Stony Brook viaduct at 4 miles per hour or less. This structure is 240 feet high and about 750 feet long.

"Care should be taken to keep drinking water on hand (in depots) and agents should have badge of office and wear it."

On the narrow gauge division, Bolivar to Olean, 22 miles, the track is laid with 30- and 35-lb. rail, "much worn and kinky." The road is reported as being kept up temporarily, as it is planned to change it to standard gauge, next year. Ties are bad and ballast is lacking, and "adjustment of track is very poor."

"There are two wooden trusses near Olean that have been shored up recently and are barely safe now."

"The motive power is light, being 20 and 28 tons."

Stations are reported as needing paint and repairs, and the road seems to be enjoying good business.

Progress in rehabilitating the C. N. Y. & W. is reported by the *Allegany County Republican*. Dec. 16, 1892: There is much activity on the main line, 5,000 ties having been placed, 25,000 bought, trestles repaired, and four new locomotives purchased. Dec. 23, 1892: "The trains will be started about the first of January. "Chief Engineer, A. G. McComb has established his headquarters in the railroad office here, formerly occupied by Hammond.

"The four new Brooks locomotives bought were on this Thursday taken into the D. L. & W. shops at Buffalo to be painted and lettered. Huge amounts of old paper of all the predecessor roads were carried out and burned" (an act greatly regretted by your historian).

The C. N. Y. & W. was opened on March 20, 1893, after two and a half years of practical suspension. Nothing ran on the narrow gauge, which was to be widened in the spring (not done until nearly a decade later!) There were three round trips daily between Hornellsville and Wayland, two between Hornellsville and Nunda Jct. (over the R. N. Y. & P. from Swains) and one between Hornellsville and Angelica.

Apr. 7, 1893: "The engineers have finished a preliminary survey of the proposed standard gauge line south from Angelica to Olean. . . . the large trestle below Jonesy will be utilized and the standard gauge roadbed beyond to a point on the Bellamy farm. From there to Belfast the former line will remain abandoned—the rails be taken up and the bridge across the river to be taken down.

"From the said point the line will be practically new to West Notch; crossing the river above Transit, and so on, south to Friendship and beyond. At West Notch the line will be changed to the easterly side and thence down to Richburg on a grade of 75 ft. to the mile instead of 134 as at present. This is very important, as the old line here was not practicable for standard gauge traffic . . . the old narrow gauge rails are to be ripped up and the new line built. . . . "

From the available evidence it must be concluded that the new management fully intended to rehabilitate the entire line, a task that was energetically started, but was prevented from doing so by the financial crisis that plagued the country in 1893. This idea finds support in an editorial appearing in the August 11th issue, excerpts from which follow. "A few weeks ago we made an announcement of extension of the road at that time planned—but which had soon thereafter to be abandoned for the year at least, because of the dangerous and calamitous financial storm which so suddenly broke upon the country; immediately stopping all new enterprises of large investment and stopping myriad wheels of industry—a financial storm, be it hoped, of not long duration.

"Meanwhile, however, under the prudent management of Mr. M. S. Blair—in whose personal care the enterprise has been since it was wrenched from the wrecking hands of George D. Chapman, of unsavory memory—the road has been placed in as good condition possible, with limited means.

"That part of the road which runs into Angelica . . . was saved . . . by the personal efforts of Mr. Frank S. Smith. And his only motive has been, to secure a railway service to this old home town of his youth . . . From the beginning, thousands of dollars have been paid by certain of the citizens of this town for their railroad. . . . " ($200,000 in fact).

October 13, 1893: Mr. W. F. Bronson, of Painted Post, contracted with Vice President Frank S. Smith to take up and ship the rails and other iron of our narrow gauge from Angelica to Bolivar . . . the work began here this morning . . . From Friendship south a locomotive can be used to advantage retreating on the line. It will take about three week to clear up from here to Belvidere.

"Mr. Bronson has done considerable work of this kind, including the taking up of the Rushford road (T. V. & C.) So goodbye to our narrow gauge—without tears: as a standard gauge line will surely be built south in the coming spring."

Dec. 8, 1893: "The work of ripping up the C. N. Y. & W. narrow gauge between Nile and Bolivar is finished. The nine miles of old iron is piled up in the Bolivar yards awaiting shipping directions. . . The entire line from Bolivar to Angelica was lumped off to W. H. Bronson, of Painted Post, for $18,000 . . . "

In the first annual report of the new road, dated June 20, 1893, after one year of operation, these items of interest may be noted. There were 99.03 miles of total track, 28.24 of which were so poor it wasn't operated. Lorenz split switches were used on the standard gauge portion, but stub switches still served on the 3-ft. section. Locomotives totaled 11, distributed as follows: 6-drivered—1 narrow, 2 std. gauge; 4-drivered—1 narrow and 7 std. gauge. There were two passenger trains each way daily. They carried 32,944 passengers, all local, and moved 40,242 tons of freight. The passenger mileage was 34,015 and freight, 22,749. As might be anticipated this ratio was unfavorable, and the year ended with a deficit of $2,541.76.

The following year $87,608.47 was spent in repairs. There was again a deficit, making the total $10,633.39. Francis R. Pemberton was now the treasurer.

The contemporary paper recorded interesting developments. June 8, 1894: "Track-master William Seager is now at work with 20 men, tearing up the standard gauge link between Angelica and Belfast, and the bridge across the Genesee near Belfast is also to be taken down. This work will be finished in a couple of weeks.

"This means of course that this branch line is abandoned forever. It has never been of any financial profit to our road, and it was long ago decided to take up the rails and abandon the link.

"A part of the rails are to be used in extending the Hornell link down Main Street.

"The recent flood washed out about a mile of the narrow gauge near Olean. Enough of these standard gauge rails are to be taken there to relay that mile with them and they are to be laid on full-length standard gauge ties . . . so that the road can easily widen out from narrow to standard gauge."

July 20, 1894: "For six weeks or so there has been a fine passenger coach run via the D. L. & W. and the Hornell stub of our road, between Hornellsville and New York City."

Owing to the financial panic, money was not forthcoming, and it is not unexpected to find a very poor report by the inspectors in 1895.

The inspector's report on the C. N. Y. & W. for 1895 is quite long and unusually detailed. It notes "considerable improvement since the last inspection, but many items still remain in the same neglected state."

Also, "unless this company makes its structures and tracks safe before the coming Spring, your inspector would recommend that it not be operated until such time as will insure its safe operation."

Inspection of the track showed it to be poorly maintained, having many rotten ties, angle bars were not spiked and track bolts were loose. The whole report indicates a dilapidated and neglected condition of almost every feature. The serious condition of Stony Brook viaduct is again called to attention of the Commission. "The Howe through truss bridge over the Erie Railroad . . . is positively unsafe and trains should not be allowed upon it." This appears to be the general state existing on most bridges and trestles.

The narrow gauge division receives the same discouraging report, with the suggestion "that this road be closed until new rail, sufficient ties, ballast, and safe structures are forthcoming."

"Immediately upon the receipt of the above report by the Board, the company was notified forthwith to place the road in safe condition, in default of which, proceedings would be taken to compel suspension of operations."

President Byrne's letter in reply is made part of the Commission's records. In this he "accepts" the report, but claims that immediate correction of the conditions is impossible.

"A second inspection was then proposed by the Board, to be made by Inspector Baxter, an engineer to be selected by the company, and by Charles F. Stowell, a recognized authority upon railroad track and bridge construction; the company to make such necessary repairs as might be agreed upon by the three engineers, to place the road in safe condition for operation during the winter, otherwise operations to be suspended. This proposition was accepted by the company and the inspection was begun on October 9th and completed October 11th."

As a result another comprehensive report of conditions and recommendations was made and, upon its being submitted to the company, was acknowledged by its President, who replied in part "We expect to overhaul the line as soon as the season opens in the Spring."

Apparently the previous (1895) report had some effect, because much improvement is noted in the 1897 inspection. The horseshoe trestle at Swain's was a third filled in (but the filling was not completed until 1902) and some smaller ones were all filled (see picture of No. 49).

The inspector's report for 1897 is quite as detailed and lengthy as that of 1895, and many improvements are noted therein; and it is evident that serious conditions noted in the 1895 report have been corrected, and recommendations made by the inspector have been acted upon by the company. There are, however, many faults found with the road's condition, and further suggestions are made for the improvement and safety of the property.

The final inspection, of 1899, reveals some progress, and reports conditions of tracks, bridges and buildings as being much improved over those of earlier reports. The points stressed are the need of new ties and the necessary replacement of the worn and bent rails in the main

track, as well as the inadequate forces of men for proper maintenance of the company's properties.

A copy of this report was sent to the company, with a letter making the recommendations of the inspectors the recommendations of this Board. The company informed the Board that the entire line of railroad was to be rebuilt. (Undoubtedly this referred to the coming consolidation that terminated in the formation of the Pittsburg, Shawmut and Northern R. R. Co. on Aug. 2nd.)

It was reported in the *Railroad Gazette* for May 12, 1899, that the stockholders had voted to increase the capital stock from $1,000,000 to $2,000,000, to provide for widening the narrow gauge division, filling trestles, relaying track with heavier rails, and buying additional equipment. It was also stated that several short lines had been purchased recently, to be consolidated with the permission of the State Railroad Commission. In the July 2nd issue it was stated that C. N. Y. & W. had applied to this commission for permission to extend its road 60 miles north to Macedon, to a connection with the New York Central and Hudson River. In so doing it would have to cross the Erie, L. V., D. L. & W., and the Northern Central (now P. R. R.). This proposed extension was to be realized by a consolidation with The Central New York & Northern, which was incorporated for this purpose on April 20, 1899 by Henry V. Pratt (see following section). Permission to consolidate was granted, the necessary certificates being filed on Aug. 1, 1899; the new company was to have a capitalization of $3,500,000. Permission to widen the narrow gauge portions was granted the P. S. & N. on Aug. 15th.

The last officers were as follows: Pres., John Byrne; vice-president and general counsel, Frank Sullivan Smith; Sec., Lewis F. Wilson; Treas., Francis R. Pemberton; Aud., Henry S. Hastings; Chief Engineer, William Barclay Parsons; General Supt., M. S. Blair; General Frt. & Pass. Agt., Chas. H. Hammond.

During the last complete year, the C. N. Y. & W. employed 107 persons, including the officials, paying them $53,886.61. Passenger trains carried 106,991 people and ran 67,458 miles, earning $29,003; 74,278 tons of freight were carried. The total earnings were $42,636, with other income of $2,295. The deficit for the year was $6,071, which made the total deficit $34,054. There were still listed 11 locomotives, 9 of which were leased, and 102 cars (10 passenger; 3 baggage, mail, express; 22 box; 42 flat; 21 coal; 3 stock; 1 caboose).

The accompanying Employees' Timetable for 1899 covers only the standard gauge portion of the road. It shows a reasonably frequent passenger train service. It includes the Swain's branch to Nunda Jct. (connection to Rochester) and serves to locate the elusive Ross Corners which figures prominently in the construction of the Rochester, New York and Pennsylvania and predecessor railroads (see Bull. No. 64, pp. 32-34).

Locomotives of the Central New York and Western

Since no records of C. N. Y. & W. locomotives have been found, a roster must be a matter of inference from the isolated facts available. A judicious consideration of them has made it possible to draw very plausible conclusions, and draw up a roster.

It is known from the Shawmut roster (Bull. No. 61) that certain old engines were renumbered, into the P. S. & N. series. The eight of standard gauge, inherited from the C. N. Y. & W., were renumbered 8, 9, 10, 11, 12, 13, 14, and 15. From the various reports of the state commissioners and *Poor's Manuals,* it is evident that the C. N. Y. & W. had eleven locomotives, of which two were narrow gauge. From the sales records of the American Locomotive Co. four new engines were sold to the C. N. Y. & W.; these are accounted for by Nos. 1, 2, 3, and 6, as revealed in the Shawmut roster. From the latter it is also noted that P. S. & N. No. 8 was No. 32 of the Lackawanna and Pittsburgh; No. 9 was No. 34 of the Rochester, Hornellsville and Lackawanna; No. 14 was No. 23 of the latter, while No. 15 was No. 21 of the L. & P. These four, plus the four new ones, plus No. 43, make the total of nine standard gauge engines, as stated in the records. They were leased, not owned.

When the Lackawanna and Southwestern was sold, the part formerly Lackawanna and Pittsburgh went to John Byrne, while Frank Sullivan Smith got possession of the Rochester, Hornellsville and Lackawanna. Presumably, any engines on hand went with the respective roads; thus, the four narrow gauge engines (4, 5, 6, 7) and standard gauge Nos. 21 and 32 of the L. & P. would be found with Byrne, while Smith would have Nos. 23, 34, and 43 (all standard). Probably the engines except No. 43 were owned jointly, and leased by their owners. In the 1893 inspection report it was noted that there were but two 3-ft. engines, one having four, and one having six drivers, and that the C. N. Y. & W. owned only two engines. It seems most likely that these two would be the ones owned, since they were the oldest. They were undoubtedly Nos. 4 and 5, both of which appeared on the succeeding Shawmut.

According to the Brooks records, Nos. 1, 2, 5, and 6 (Construction Nos. 1563, 1564, 1655, 1656; order B-344) were built for the Montgomery, Tuscaloosa and Memphis, as Nos. 25-28, but not delivered, being changed to Central New York and Western on January 14, 1893.

It was stated (Bull. No. 62, p. 83) at one time that there were four more engines on the Lackawanna and Pittsburgh, and on the Rochester, Hornellsville and Lackawanna, Nos. 8-11 and 12-15 respectively. This has proved to be incorrect. Mr. Best was, fortunately, able to inspect the original ledger of the Cooke Works; the information originally supplied to our society had been copied from a transcription and had ditto marks, which led to the confusion. The Oregon Pacific R. R. had ordered 11 locomotives from Cooke, which had shop numbers 1718-1720, 1722-1725, and 1728-1731 inclusive. Their road numbers were 5-15 inclusive. All were delivered to that road and none of them ever operated on any other road previous to Oregon delivery. In between the series the Lackawanna and Pittsburgh ordered one engine, No. 32, constr. No. 1721,

and the Rochester, Hornellsville, and Lackawanna ordered two, Nos. 23 and 34, constr. Nos. 1727 and 1726.

I have been unable to clear up the puzzling fact that the C. N. Y. & W. assigned the numbers 1, 2, 5, and 6 to their engines, omitting 3 and 4. There is no evidence that any of the old engines were renumbered, as can be seen from the photograph of C. N. Y. & W. No. 32. Thus, there would be two engines numbered 5, one standard and one narrow gauge, and no number 3. In fact, the only No. 3 of the entire series of predecessor roads was the 3-footer of the Allegany Central about which nothing is known for certainty except that it was old even then.

Locomotives of the C. N. Y. & W.

CNY&W No.	Formerly	PS&N No.	Builder	C/N	Date	Type	Cyls.	DD	Scrapped
1	MT&M 25	13	Brooks	1563	9-1889	4-4-0	17x24	62	12-31-28
2	MT&M 26	10	Brooks	1564	9-1889	4-4-0	17x24	62	12-31-28
4	L&SW 4*	4	Brooks		?	4-4-0			
5	MT&M 27	11	Brooks	1655	4-1890	4-4-0	17x24	62	11-25-12
5	L&SW 5*	5	Baldwin	5975	12-1881	2-6-0	14x20	45	See AC#5
6	MT&M 28	12	Brooks	1656	4-1890	4-4-0	17x24	62	12-31-36
21	L&P 21	15	Cooke	1715	1886	4-6-0	18x24	'52½	5-27-12
23	RH&L 23	14	Cooke	1727	1886	4-6-0	18x24	55½	5-1-16
32	L&P 32	8	Cooke	1721	1886	4-4-0	16x24	63	12-31-24
34	RH&L 34	9	Cooke	1726	1886	4-4-0	16x24	63	12-31-28
43	See L&P roster notes					4-4-0			1899?

*3 ft. gauge.

It should be noted that M.T. & M. No. 26 became C.N.Y. & W. No. 2, not No. 1, as has been sometimes stated. The domes were alike on Nos. 21 and 32, and on Nos. 23 and 34, being rounded on the latter.

The Strong Locomotives

By Paul T. Warner

This article is based chiefly on information presented in the magazine *Railroad Gazette* (now *Railway Age*) during the years 1885-1900; the 1886 edition of *Recent Locomotives*, published by *Railroad Gazette;* and a series of articles on the Strong Locomotives by F. W. Brewer, which appeared in the magazine *The Locomotive* (London) in 1921. The author is also indebted to W. A. Lucas, C. T. Andrews, S. R. Wood, F. S. Graham, and the late C. B. Chaney, for information and photographs.

The period 1880-1900 marked some unusually interesting steps in the development of the steam locomotive. Among these were the introduction of several new wheel arrangements, some of them embodying the use of trailing wheels to meet the boiler requirements; the extensive use of compound locomotives having various cylinder arrangements; an increase in steam pressures, averaging 25 to 30 per cent from the beginning to the end of the period; the general abandonment of elaborate brass trimmings and decorative paint work, together with moulded designs of sandboxes and dome casings; and the appearance of various "freak" locomotives, such as the Raub, Fontaine, Holman and others. Practically all of these were shortlived and exerted no influence on future locomotive designs.

Among the "freaks," in the estimation of many persons, were the "Strong" locomotives, designed by George S. Strong, a Mechanical Engineer of Philadelphia, Pa., who had various original and rather radical ideas regarding locomotive construction. While only a few of these locomotives were built, and they had comparatively short lives, they showed the result of prolonged and careful study in an effort to increase locomotive efficiency, and capacity per pound of weight. But it was the old story of producing engines which were more difficult and expensive to maintain than standard types; which were strange to the men who had to run them, and which, probably, did not receive the attention and consideration that a new design should receive if its best features are to be demonstrated.

Strong was an ingenious designer and a prolific inventor, as is proved by the fact that about 60 patents were granted him during the years 1880-1898 inclusive, the majority of them applicable to steam locomotives. His patents applied chiefly to the means for producing steam (the boiler) and the means for distributing it in the cylinders (the valves and valve gear). In actual practice the second was apparently tried first, as the Strong cylinders, valves and valve gear were applied to Lehigh Valley locomotive number 383, before the first Strong boiler was built. The 383 was of the 4-4-0 type, built at the Wilkes-Barre shops of the Railroad Company in 1884. She had 19x24-inch cylinders and drivers 66 inches in diameter, and weighed 99,520 pounds with 74,640 pounds on drivers. Built before names were finally abandoned on the Lehigh Valley, the 383 was named "Elisha Hancock." She was a hard-coal burner, and had a long firebox placed above the frames, with a grate area of 37 square feet. Apparently the locomotive was

originally built with Strong's cylinders and valve gear, although the writer is not absolutely certain on that point. Apart from the cylinders and valve gear, the 383 was very typical of the heavy 4-4-0's used on the road at that time.

In designing his cylinders and valve gear, Strong's objective was to obtain maximum port openings at all points of cut-off, and to provide the freest possible exhaust and so reduce back pressure. He used valves of the so-called "grid-iron" type, which worked over a multiplicity of port openings, providing a maximum port area, at each end of a 19-inch cylinder, of 50 square inches, or at least twice that provided in a slide valve cylinder of the same dimensions. At each end of the cylinder were an admission valve and an exhaust valve, placed side by side in a vertical position, between the cylinder barrel and the engine frame. The valves worked in seats of circular form, which were placed vertically and were fitted into holes bored in the passages leading from the saddle to the cylinder. The valves were operated by overhead rockers, and worked in grooves which were formed in the seats. Each valve moved over ten ports, which were fully opened with a valve movement of only 1-1/16 inches. The movement of the steam valve was of course varied to suit the cut-off desired, but the exhaust valve had a constant movement for all points of cut-off, so that full exhaust port openings were always available and the choking of the exhaust passages at short cut-offs—a necessary evil with the usual slide valve and link motion—was eliminated. By using separate steam and exhaust valves, and a suitably designed valve motion, the cut-off could be varied between the limits of 4 and 20 inches, with a piston stroke of 24 inches. The steam passages were short, and the clearance was smaller than in a cylinder of the conventional type.

Engine 383 was fitted with a valve gear of the radial type, driven off the connecting rod, which has been described as a modified form of Hackworth gear, formerly extensively used in marine service. The direction of movement of the locomotive, and the point of cut-off, were determined by the position of quadrant blocks sliding on curved guides or sectors. There were separate quadrant blocks for the steam and exhaust valves. In operation, the exhaust quadrant blocks were moved only when it was necessary to reverse the locomotive, and the maximum exhaust port opening was provided at all times. The result was a reduction in back pressure, and the possibility of using shorter cut-offs than were practicable with the slide valve and link motion. According to tests carried out on the Lehigh Valley Railroad, engine 383 showed a saving of 15 per cent in water per horsepower-hour as compared to standard locomotives of generally similar design.

Due to the encouraging results achieved with engine 383, the Lehigh Valley decided to go one step further, and build an engine in accordance with Strong's designs throughout. The locomotive so constructed was the "Duplex," road number 444, which was built at the Wilkes-Barre Shops in 1885-1886. We quote as follows from a description of this locomotive, which was published in the 1886 edition of *Recent Locomotives:*—

"The engine is specially designed with a view to exert at high speed a tractive power exceeding that of any existing engine. It is also the intention of the designer that the engine shall emit no sparks or smoke, and that the combustion shall be so perfect that the maximum possible duty shall be developed from each pound of coal burnt. Economy is to be further promoted by the special form of valve gear adopted, which is calculated to give a very high average pressure in the cylinders with an early cut-off. An engine with similar valve gear commenced running on the Lehigh Valley in 1885, and has given very encouraging results in this direction." (This was a reference to engine 383).

The drawings published in the *Railroad Gazette* show a locomotive with a valve gear similar to that used on the 383, and which has been briefly described. At the last moment, however, Strong redesigned the motion for engine 444, and operated the gear for each cylinder from a single eccentric placed on the main driving axle. The eccentric had a single strap with two blades, one of which operated the admission valves and the other the exhaust valves. The curved guides for the quadrant blocks were placed horizontally instead of vertically, as in the previous arrangement, and the direction in which the locomotive ran, as well as the point of cut-off, was determined by the position of the quadrant blocks on the guides. In its essential features, this type of motion reappeared nearly 30 years later in the so-called "Southern" gear, which was patented and applied to a large number of locomotives built during the period of World War I. One of the claims made for the Southern gear was that the "links" (referring to the guides for the quadrant blocks) were stationary. This was of course misleading, as the Southern gear used no "links" in the usually-accepted sense of the word. It should also be noted that the Southern gear was driven from a return crank on the main pin, instead of from an eccentric as employed by Strong. This, however, in no way changed the operating principle of the device.

A most notable feature of engine 444 was the boiler, which represented Strong's improvements over the conventional type of locomotive boiler, with its stay-bolted firebox and other objectionable features. The Strong boiler was fitted with two of Fox's cylindrical corrugated furnaces, which were similar to those used in marine boilers of the "Scotch" type. These furnaces were placed side by side, and were 9 feet 3 inches long, with a minimum internal diameter of 38¼ inches and a maximum internal diameter of 42 inches. The thickness of the material was ⅜-inch.* At their forward ends the furnaces discharged into a combustion chamber, consisting of a section of corrugated flue which was united to the furnaces by a junction piece. This piece was formed of three plates which were shaped in a hydraulic press and then welded together. From the firedoors to the back tube sheet, at the

* In 1886, there were over 10,000 such furnaces in use, carrying pressures up to 180 pounds; a total of 1656 having been ordered in 1885, for steamers with triple and quadruple expansion engines.

forward end of the combustion chamber, the distance was about 17½ feet, and the total length of the boiler, including the smokebox, was approximately 33 feet. The combustion chamber and the smokebox were connected in the conventional manner, by 306 tubes, each 1¾″ diameter and 11′-5″ long.

This was a rather difficult boiler to build, especially because of the peculiar shape and construction of the junction piece which formed part of the combustion chamber; and instead of building it at the Wilkes-Barre Shops, it was constructed by the Edge Moor Iron Company at Edge Moor, Delaware, near Wilmington. Ample firebox volume, so essential in boilers forced like those of locomotives, was in the case of the Strong boiler, provided by the combustion chamber. Apparently the boiler steamed freely, and by firing the two furnaces alternately, and always having a bright fire in one of them, bituminous coal could be burned with very little smoke. Due to the corrugations, the furnaces could easily expand and contract; and it was claimed that any scale that might have formed on them, would crack and fall off in the process. Strong claimed that in the event of the water getting low, the top of a corrugated cylindrical furnace might sag, but it would not rupture and tear, as would the crown sheet of a conventional firebox.

The boiler of engine 444 was of such length that it could not be carried on a 4-6-0 wheel arrangement, and hence a rear truck was added and the result was undoubtedly the first true Pacific type locomotive. The rear truck was fitted with a radius bar, and was equalized with the drivers. It is rather difficult to trace out all the details of the spring rigging from the drawing published in the *Railroad Gazette*, but apparently the locomotive was cross-equalized in front by a transverse spring placed ahead of the first driving axle. The longitudinal driving springs were placed between the axles, and were connected by means of "dolphin beams" resting on the tops of the driving boxes.

The locomotive was distinctive in appearance, as the cab was placed forward of the firebox; so that it belonged to that large group of locomotives known on the anthracite roads as "camel-backs" or "Mother Hubbards." The principal dimensions were as follows:—

Cylinders		20″x24″
Drivers, diam.		62″
Boiler, diam.		58″
Steam pressure		160 lbs.
Tubes, number		306
Tubes, diam.		1-¾″
Tubes, length		11′-5″
Grate area	62 sq. ft.	
Heating surface—		
Tubes	1600 sq. ft.	
Fireboxes	155 sq. ft.	
Comb. Chamber	93 sq. ft.	
Total	1848 sq. ft.	
Weight on drivers		90,000 lbs.
Weight total engine		138,000 lbs.
Tractive force		21,100 lbs.
Tank Capacity		3000 gals.

As shown by the drawings published in *Recent Locomotives*, the rear drivers of engine 444 had plain tires without flanges. On a total wheel base of 30′ 2″, the rigid driving wheel base was only 5′ 7″.* This arrangement was doubtless used to enable the locomotive to easily traverse the many sharp curves on the Lehigh Valley's main line. Alexander Mitchell, Master Mechanic at Wilkes-Barre, had made a special study of the use of flanged and plain tires on large locomotives, and had rebuilt the old Norris Decapod (the "Bee," No. 82), as a 2-8-2, with plain tires on the rear drivers. He was granted a patent covering such an arrangement.

Engine 444 was tested, not only on the Lehigh Valley, but on several other roads, and an examination of the files of the *Railroad Gazette* reveals various references to such tests. On May 20, 1887, hauling an east-bound Lehigh Valley train, the engine left Wilkes-Barre with eight cars, including the Pennsylvania Railroad's dynamometer car, and ran the 12 miles from Sugar Notch to Fairview, on an ascending grade of 96 feet to the mile, in 24½ minutes, including one slow-down. Bituminous coal was used as fuel, and the combustion was almost smokeless. The pressure carried was 155 pounds. On another run in the opposite direction, the 10½ miles from White Haven to Glen Summit, where the ascending grade reaches 68 feet per mile, were made in 19½ minutes with nine cars.

In June, 1887, the locomotive ran from New York to Chicago over the Pennsylvania, and from there to St. Paul over the Milwaukee Road. It was then tested on the Northern Pacific, under the supervision of E. D. Leavitt, Jr. With a train of 12 cars weighing 370 tons, the engine ran 10.8 miles in 11 minutes, carrying a steam pressure of 160 pounds. Cards taken at 60 miles an hour showed from 1369 to 1810 indicated horsepower; an amount, according to the Leavitt report, "which has never been equaled, and perhaps it would be proper to say, approached by any other locomotive." This represented one horsepower for each 76 pounds of locomotive weight, and was—if the figures are correct—a truly remarkable performance for an engine using saturated steam at 160 pounds' pressure.

Apparently the 444 existed in her original condition until the later 1890's, when she was rebuilt at Wilkes-Barre as a 4-6-0 with a conventional boiler. On November 11, 1898, she was helping east-bound train No. 6 up Wilkes-Barre Mountain, when that train collided head-on with west-bound train No. 5, which had become uncontrollable on the downgrade. That marked the final finish of the 444.

In the meantime, another Strong locomotive had appeared and had been making history. This was the "A. G. Darwin," number 1, built by the Hinkley Locomotive Works of Boston, to the order of the Strong Locomotive Company. It carried the Hinkley construction number 1738. This engine was of the 4-4-2 type, and was really the first genuine "Atlantic" type, because, as in the case of Lehigh Valley engine 444, the rear truck was added on account of the length and weight of the boiler. The principal dimensions of the "Darwin" were as follows:—

* The wheel base of the front truck was 6′ 6″.

Cylinders	19"x24"
Drivers, diam.	68"
Steam pressure	175 lbs.
Grate area	50 sq. ft.
Total heating surface	1650 sq. ft.
Weight on drivers	72,000 lbs.
Weight on front truck	34,000 lbs.
Weight on back truck	30,000 lbs.
Weight total engine	136,000 lbs.
Tractive force	18,950 lbs.

As far as cylinders, valves, valve gear and boiler were concerned, the "Darwin" was closely similar to engine 444, with certain dimensions changed to suit a smaller locomotive. The main rods were connected to the first pair of drivers. At the time the engine was built, Strong made the following statement regarding the design of the running gear:—

> "This locomotive, as a type, differs somewhat from the ordinary practice as regards its running gear: and the arrangement, made necessary primarily by reason of the shape of the boiler, possesses advantages that are worthy of consideration, as it meets the much discussed problem of how to make a boiler large enough to do the work and still be able to carry it, and while doing this it meets two or three other very desirable requirements. It makes it possible to make a locomotive that, while large enough, is very easy on the track and bridges, and while easy on these it must necessarily be easy on itself and on the man who runs it. It is equalized from in front of the leading driver back to and across the trailing and pony truck, and back to the same point forward of the driver on the other side, so that when it strikes any unevenness in the track the shock must go through all these before it reaches the engine, and is lost, so that one does not feel any jar or jolt on the engine. The fulcrum on the lever that equalizes the trailing truck can be shifted to put any required weight on the drivers, while the surplus is carried on the truck, and such an amount is put on the drivers as the road and bridges will safely carry. As the trucks are both swing bolsters, the engine curves very nicely, passing a curve without any of that lurching of the front end so noticeable on ordinary locomotives, and as the wheels come almost directly under the centre of gravity, as well as almost midway between the front and back trucks, the engine is free from that rising or surging of the front end, so common in the American type of locomotive."

The total wheel base of the locomotive was 29 feet, and the driving (rigid) wheel base was 7 feet. The front truck also had a wheel base of 7 feet. Illustrations of the locomotive show the driving wheels as apparently having no counterbalance weights, and the statement has been made that the reciprocating and revolving weights were not balanced. This, of course, could not have been true; and it is safe to assume that the wheels had hollow rims—and probably spokes—which were filled with lead opposite the crank pins. The guides were of the Dean, or box type, with a wide shoe on top and inwardly-projecting lips under the crosshead to take the thrust when backing up.

According to the drawings of the boiler of Lehigh Valley engine 444, as published in the *Railroad Gazette,* the various sections of the firebox and combustion chamber were united by telescopic joints. In the case of the "Darwin," however, the connections between the two furnaces and the junction piece, and between the latter and the single flue of the combustion chamber, were made by flanging the plates outward and butting them together, using copper gaskets to insure tight joints. By this connection the rivet heads were on the water side, and the rivets were not exposed to the direct action of the fire. The corrugated furnaces were made at the Continental Iron Works, New York, and the boiler was built by the Logan Iron Works on Long Island.*

The tender of the "Darwin" was rather unusual, in that it had a four-wheel truck under the front end and a six-wheel truck at the rear. It was provided with a hood, which telescoped into a shield mounted on the rear end of the boiler, thus providing good protection for the fireman.

Closely following the "Darwin" was a similar locomotive, built by the Schenectady Locomotive Works for the Atchison, Topeka & Santa Fe Railway—road number 738 and builder's construction number 2405. It was completed in September, 1889. Apparently the cylinders of this locomotive were 18 inches in diameter, or one inch less than those of the "Darwin;" but a study of the photographs of both engines leads to the conclusion that in other respects they were practically duplicates. The Santa Fe locomotive did not last long in its original condition, for a note in the *Railroad Gazette* of February 5, 1892, states that it was being rebuilt in the Company's shops at Topeka as a standard 4-4-0 type.

The "Darwin" had a longer career, and for several years was used experimentally on a number of railroads. The late Charles B. Chaney once told the writer that his friend Martin Lee, a wellknown engineman on the Pennsylvania Railroad, had run the "Darwin" when it was in experimental service on that line; and there are records of a successful New York-to-Buffalo run on the Erie, when the locomotive reached a speed of 72 miles an hour, with a train weighing in excess of 200 tons, exclusive of engine and tender. The run was made on April 1, 1889, at an average speed, allowing for stops, of 39.5 miles an hour. It was necessary to take coal five times, and that resulted in considerable delay; but the time so lost was invariably made up. A light rain was falling and the rail was slippery. The return trip was made on the following day, with a somewhat heavier train which reached a maximum of 11 cars over part of the run.

In experimental service on the Cincinnati, Hamilton & Dayton Railway, early in 1890, the locomotive apparently was very successful, steaming freely and emitting a minimum amount of smoke and cinders. According to reports, a maximum speed of a mile in 40 seconds (90 miles an hour) was recorded, using a stop watch.

It was doubtless due to the apparent success of the "Darwin" that the Strong Locomotive and Manufacturing Company was incorporated in Ohio early in 1890. It was reported in the Cincinnati papers that

* Brewer in *The Locomotive.*

this concern had purchased 1350 acres of land for $357,000, and that shops would be erected for building all types of locomotives. Just how this venture ended the writer does not know, but it is quite possible that the financial crash of 1893 put it on the rocks. Apparently the shops were never built.

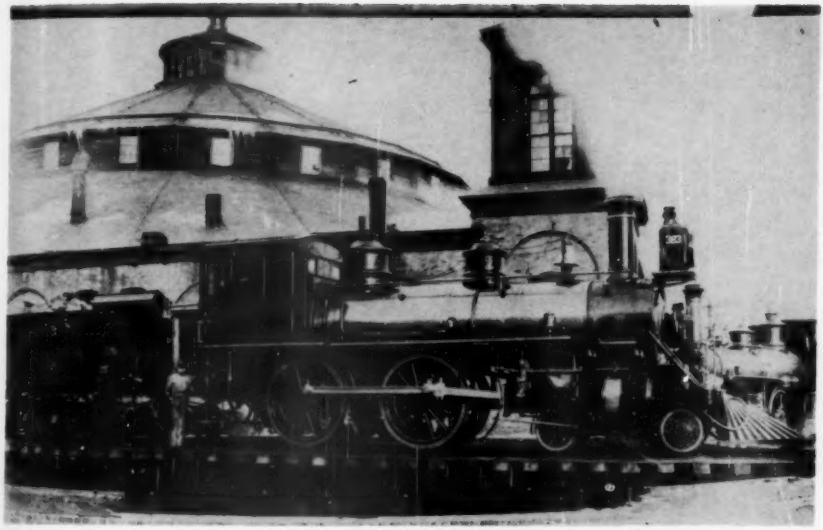
Strong next turned his attention to compounding; the Balanced Locomotive & Engineering Company was organized, with headquarters in New York, and the "A. G. Darwin," No. 1, was rebuilt as a balanced compound at the Maryland Steel Company's plant at Sparrow's Point (Baltimore). An article giving some preliminary data on this engine was published in the *Railroad Gazette* of June 14, 1895, in which it is stated that "the steam is to be superheated before entering the high-pressure cylinders, and is to be reheated between the high and low-pressure cylinders by the Strong multitubular reheaters. It is expected to get a locomotive that will run for 18 pounds of water per horsepower-hour."

Brewer, in his article in *The Locomotive*, gives the dimensions of the rebuilt compound as follows:—

Cylinders, high-pressure	16″x24″
Cylinders, low-pressure	23″x24″
Driving Wheels, Diam.	68″
Boiler, diam (inside)	58″
Tubes	205, 2¼″ diam. 10, 3¼″ diam.
Tubes, length	10′ 3″
Grate area	50 sq. ft.
Total heating surface	1650 sq. ft.
Steam pressure	170 lbs.*
Weight on drivers	87,600 lbs.
Weight total engine	143,400 lbs.

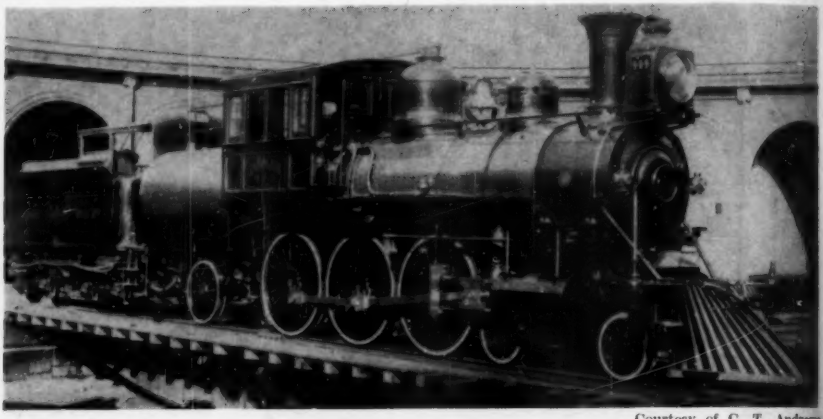
The locomotive, as rebuilt, was a four-cylinder balanced compound, and was apparently the first of that type to be built in this country. The high-pressure cylinders were inside, between the frames, and their pistons were connected to a crank axle on the first pair of drivers; while the low-pressure cylinders were outside, and their pistons were connected to the same pair of wheels in the usual manner. A modified form of Walschaerts gear, worked from a return crank on the leading drivers, was employed. The same general type of gridiron valve, as originally applied to the locomotive, was used on the compound. There were three valves at each end of each pair of cylinders; one controlling the high-pressure admission, the second the high pressure exhaust and the low pressure admission, and the third the final exhaust from the low-pressure cylinder. Apparently there was no way of passing the steam through a reheater between the cylinders, as mentioned in the *Railroad Gazette* article; but it is quite possible that a superheater was placed in the ten large boiler tubes. The high and low-pressure cranks, on each side of the locomotive, were 180 degrees apart, and as the pistons were equal in weight, the reciprocating parts were balanced. The high-

* The article in the *Railroad Gazette*, previously referred to, gave the steam pressure as 185 lbs.



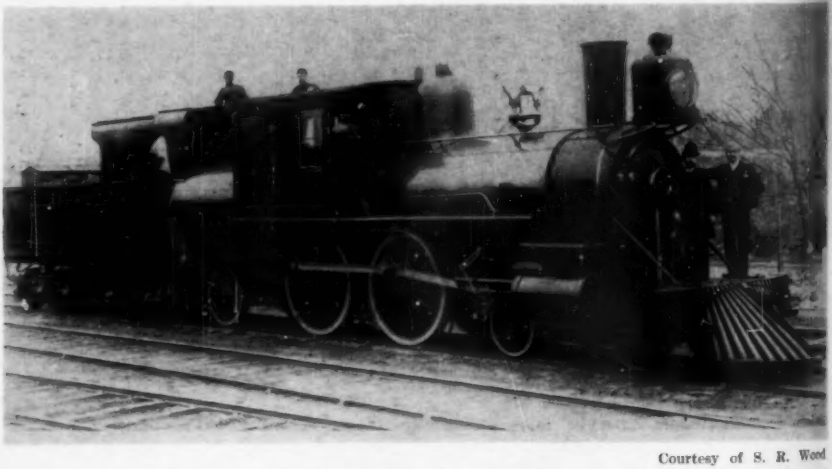
Courtesy of W. A. Lucas
From Smith Collection

L. V. 383 equipped with Strong's valves and valve gear.



Courtesy of C. T. Andrews

Lehigh Valley R. R. #444. Built Wilkesbarre 10-86. Rebuilt to a 4-6-0? Destroyed in a wreck 11-11-98. Boiler put on engine 544 Wilkesbarre 9-99. 544 renumbered 1302 in 1905. Scrapped 11-1923.

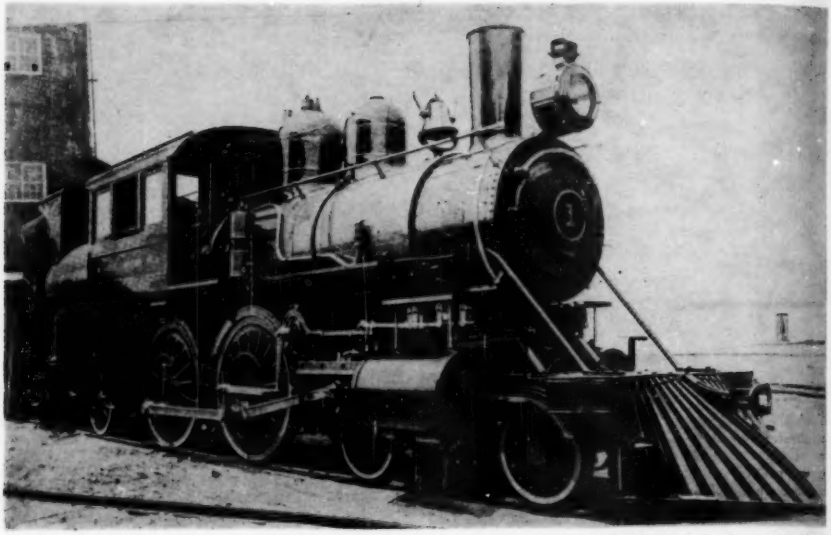


Courtesy of S. R. Wood

Strong Locomotive Co. #1 "A. G. Darwin." Hinkley #1708, 1887, 19x24-68. Steam 175#. Total wt. 135,800#, wt. on drivers 73,920#. Heating surface 1650 sq. ft. Grate area 50 sq. ft.

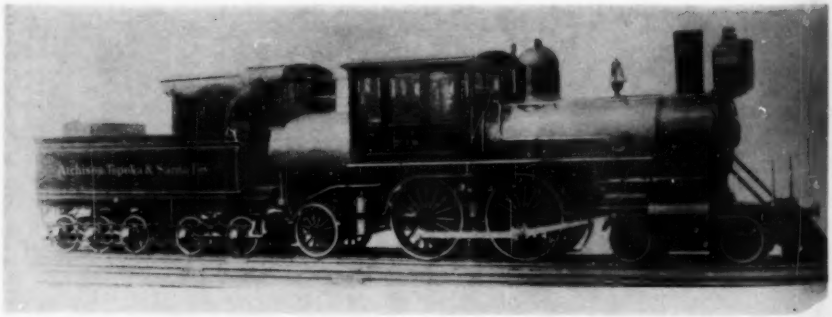
Courtesy of S. R. Wood

Strong Locomotive Co. #1 "A. G. Darwin." Hinkley #1708, 1887.



Courtesy of F. Stewart Graham
Copied from Locomotive Engineering

Strong's Balanced Compound.



Courtesy of S. R. Wood

A. T. & S. F. #738. Schenectady #2405, 1887. Built under Strong patents. Renumbered 238 and 40. Rebuilt prior to 1900 to conventional 4-4-0 type. Scrapped at Topeka, Kans., 9-16-25.

pressure revolving parts were balanced by extensions on the crank cheeks, and the low-pressure by counterweights placed in the wheels, close to the hubs.

This locomotive was given a series of tests on the stationary testing plant at Purdue University. Based on information in the *Railroad Gazette*, these tests apparently took place in June, 1897; and their chief object was to determine the extent to which disturbing forces had been reduced by the four-cylinder balanced design. The tests were made by placing small copper wires under the supporting wheels, upon which variations in pressure were recorded while the engine was being run at different speeds. The results were apparently satisfactory, as the locomotive ran with very little vibration and there was practically no dynamic augment. The *Railroad Gazette*, however, commenting editorially on the tests, recommended reducing the weights of the reciprocating parts on two-cylinder locomotives, rather than using the more complicated four-cylinder design. Strong, of course, argued in favor of his engine, predicting that the locomotive of the future would be a four-cylinder balanced compound. During the first decade of the present century, it looked as though this prophecy might be fulfilled, as balanced compound locomotives were built in considerable numbers—especially by the Baldwin Locomotive Works. But with refinements in design, and the use of superheated steam and improved materials, the conventional two-cylinder type more than held its own, and the more complicated balanced designs passed out of the picture.

The writer has been unable to locate information regarding the performance of the Strong balanced compound in actual railroad service. He recollects, however, viewing it through the cracks and knot holes in a high board fence surrounding a junk yard in North Philadelphia, where the locomotive undoubtedly ended its days. The date is unfortunately uncertain, but he believes it was in the fall of 1900.

George S. Strong is credited with having prepared other locomotive designs, in addition to those that were actually built. The article by F. W. Brewer in *The Locomotive*, to which previous reference has been made, presents illustrations of a proposed 4-4-2 type with 84-inch drivers; a 2-6-2 type with 58-inch drivers; and a 2-10-2 type with 44-inch drivers. The late C. B. Chaney, in correspondence with the writer, also referred to 4-4-0 and 2-8-2 types, as developed by Strong. It would appear, however, that the only locomotives actually built to his designs throughout, were the Lehigh Valley "Duplex," number 444 (4-6-2), and the "A. G. Darwin" (4-4-2) and its counterpart, the 738, on the Sante Fe. The "Darwin" was later rebuilt as "Balanced Compound No. 1." There should also be mentioned the Lehigh Valley 4-4-0, number 383, which had a conventional boiler but was fitted with Strong's cylinders and valve motion. Records also indicate that the Santa Fe ordered a Strong locomotive of the 4-8-0 type from the Schenectady Locomotive Works, but the order was cancelled before the locomotive was completed.

The history of the Strong locomotives can be paralleled by that of other engines that have been built from time to time. The Baldwin locomotive number 60,000, a 4-10-2 type, three-cylinder compound carrying

a steam pressure of 350 pounds, may be cited in this connection. That locomotive, built in 1926, "tramped" the country from Coast to Coast. It was tested on the Pennsylvania's stationary plant at Altoona, and was also given road tests on various railroads. It established some remarkable records, and the engineer representing the builders, who travelled with it, expressed the opinion that the railroads would *have* to buy such locomotives, as they could not afford to do without them. But no one purchased the engine, and no more of that type were built.* Experimental locomotives such as those designed by Strong, and the Baldwin No. 60,000, are bound to develop weaknesses to which little publicity is given, but which prejudice railroad operating men against them. Thus, in the *Railroad Gazette* of January 13, 1888, there is brief reference to trouble with the Strong fireboxes, due to the fact that some of the joints had not been made properly. With patience and further study such defects might be overcome, but they are not forgotten and are held against the engines by the men who maintain and operate them. Complicated valves and valve motions may produce beautiful indicator cards, but that does not mean that the locomotives would be any more successful in getting trains over the road. A competent locomotive designer, who also understood the problems of maintenance and operation, once remarked to the writer that "the best valve gear is plenty of boiler." From a practical point of view there is much truth in that statement.

George S. Strong had the courage of his convictions, and while his designs may not have been suitable for meeting the motive power requirements of American railroads, they displayed ingenuity and had points of real merit. He used all of his resources in endeavoring to develop them, and is said to have died penniless. His work certainly deserves a place in the history of the American locomotive.

Editor's Note:

The Strong Locomotive Co., 239 Broadway, New York City, prepared a series of sketches showing the different types of locomotives covered by their designs and sent them to the different locomotive builders. Such a set is in the Baker Library and it shows six designs whose dimensions were as follows:

Type	Cylinders	Dia. of Dr.	B. P.	Boiler Dia.
4-4-2	20x24"	84"	175#	4'10"
4-4-2	19x24"	68"	175#	4'10"
4-6-2	20x24"	62"	160#	4'10"
2-6-2	20x24"	62"	175#	4'10"
2-8-2	22x24"	51"	175#	4'10"
2-10-2	22x24"	44"	175#	5' 4"

A search through various journals and biographies fails to bring forth anything about the life of this interesting inventor.

* The locomotive was presented to the Museum of The Franklin Institute, Philadelphia, where it is on permanent exhibition.

Motive Power of the C. B. & Q. R. R., as of May 1, 1858

By A. W. Newton

While not construction, the equipping of the railroad for operation is a part of the general construction program. Motive power, a necessity, must be provided and at once, so that an orderly construction program may be carried out. Even before the Chicago and Aurora Company had been organized, Mr. John W. Brooks, at that time Superintendent of Mr. Forbes' Michigan Central Railroad, and already active in promoting that "comprehensive scheme of railroads for the State of Illinois," had tendered, for sale to the road, the Locomotive "Rocket," a 4-4-0 type, weighing 19 tons, then owned by the Michigan Central Railroad. Purchase was made by the Chicago and Aurora in July 1852, and records show that it remained in service until sometime in the fiscal year ending April 30, 1859, when its identity disappeared from the annual engine roster. This was the *first locomotive purchased by the Chicago and Aurora,* and it, with the two locomotives acquired from the Aurora Branch Railroad February, 1852, constituted its total power in July, 1852. In the Annual Report of the C. B. & Q. R. R. for year ending April 30, 1858, there appears the first "Engine List" giving locomotive names or numbers and the dates built. This list shows 58 units.

With this as a basis, and from other company records as well as those of manufacturers, the Railway and Locomotive Historical Society of Boston, Mass., after a long period of investigation, published two bulletins, No. 24, March, 1931, and Part 2, June 1937, on the "Locomotives of the Chicago, Burlington & Quincy Railroad, 1855-1904." This is the most complete history of the Burlington engines that has been attempted, but it falls short of establishing the ownership of individual units acquired by the different roads that, through renaming or consolidation became the C.B.&Q. Company.

From the Annual Reports, it has been possible to establish the number of units owned by each road, although individual units have not been allocated.

The Aurora Branch Railroad at the time its name was changed, June 22, 1852, had but two locomotives; the "Whittlesey," later traded to the Galena and Chicago Union Railroad (1853) for the "Winnebago," which later was known as the "No. One" and so styled in "engine list" of May 1, 1858.

The Chicago and Aurora Railroad on June 22, 1852, acquired these two locomotives and later, July, 1852, acquired the "Rocket" from the Michigan Central Railroad. Starting with these three engines, this road had at the time of its becoming the C. B. & Q. R. R. February 21, 1855, a total of 15 units. Of these, twelve have been identified from company records and research of the Railway and

Locomotive Historical Society as follows: "No. One," "Pigeon," "Rocket," "Erastus Corning," "Little Indian," "Batavia," "Aurora," "No. 57," "No. 58," "Troubador," "Tempest" and "Whirlwind"; all shown in engine list of May 1, 1858.

At the time of the consolidation of the Central Military Tract Railroad, July 9, 1856, with the C.B.&Q. Railroad, that road had a total of 19 locomotives, accumulated between 1853 and 1855. Of these 19 units, only 7 have been identified by names appearing in "engine list" of May 1, 1858. The Railway and Locomotive Historical Society says these are the "Antelope," "Reindeer," "Panther," "Roebuck," "Cossack," "Arab" and "Corsair."

The principal reason for inability to identify ownership of locomotives lies in the fact that two railroads, the Chicago and Aurora and the Central Military Tract, were purchasing equipment at the same time, and from the same manufacturers. This was particularly so during the year 1853, when fourteen locomotives were built by the Amoskeag Mfg. Co. of Manchester, N. H., an undisclosed number going to each of these companies.

Finally the C.B.& Q. R.R. Co., successor to the Chicago and Aurora Railroad Company, February 21, 1855, started with the 15 units obtained from the Chicago and Aurora, and July 9, 1856, when it absorbed the Central Military Tract Railroad, increased its motive power by the 19 units owned by that road.

In the meantime, between February 21, 1855, and July 9, 1856, the C.B.&Q. had been adding to its power. In 1855, immediately after its organization, an order was placed with the Amoskeag Mfg. Co. for 3 four-wheel and 3 six-wheel locomotives. From the engine list of May 1, 1858, and the descriptions contained therein, these locomotives are identified as the "Lion," "Tiger," "Samson," "Stag Hound," "Fox Hound" and "Grey Hound."

The original contract for these locomotives is in the Burlington archives, and it contains an interesting provision, which is that the payment for these locomotives was *personally* guaranteed by Mr. John M. Forbes, indicating that the railroad had not yet established its reputation for unlimited credit.

In addition to these six engines, the Historical Society found that seventeen locomotives built by the Manchester Locomotive Works were bought by the C.B.&Q. R. R. Co. They were, with dates built:

Tarter	1855	No. 54	1856
Talisman	1855	No. 55	1856
North Wind	1855	No. 51	1857
West Wind	1855	No. 50	1857
Grey Eagle	1855	No. 49	1857
Golden Eagle	1855	No. 48	1857
Wataga	1855	No. 47	1857
No. 52	1857	No. 56	1856
No. 53	1857		

Thus, there are 42 of the 58 locomotives named in the engine list of May 1, 1858 accounted for as to first ownership. While no records have been found to show what road first owned the remaining

16 units, certain facts are shown in the original report that seem to indicate their ownership. In the first place, the practice of naming locomotives, then in general vogue, gives a helpful clue, particularly when names bearing certain similarities were assigned.

As an example, in 1853, four engines, the "Whirlwind," "Hurricane," "Tornado," and "Tempest" were built by the Amoskeag Mfg. Co., all of similar type and having specifications more or less alike. Two of these the Historical Society found to have been built on order from the Chicago and Aurora Railroad, and it is reasonable to assume that the remaining two were also built for that road.

These two with the twelve already identified as acquired by that road, would leave but *one* to be accounted for. In 1853 three Amoskeag Mfg. Co. engines, "Batavia," "Excelsior," and "Little Indian" were delivered. Two, "Batavia" and "Little Indian" are known to be Chicago and Aurora engines. These three were all built to the same specifications, viz: four drivers 54" diameter, outside connected, and 15"x22" cylinders. All were woodburners, but prior to May 1, 1858, the "Little Indian" had been converted to coal burner. Because of all these facts it may be concluded that the "Excelsior" was also a Chicago and Aurora Engine, thus making up the full complement of 15 units that were transferred to the C.B.&Q. R. R. February 21, 1855, when the C. & A. R. R. became the C.B.&Q. R.R.

By this process of elimination, the total of 16 units not allocated is reduced to 13 units, which were acquired by the C.M.T.R.R. and the C. B. & Q. R. R.

Of the 19 engines acquired by the C. M. T. R. R. 7 have been identified, leaving the remaining 12 to be allocated from the 13 unassigned units. These are the "Garden City (1854); "Stranger" (1854) built by the Chicago Loco. Wks.; "Brown Bear" (1855); "White Bear" (1855); "Black Bear" (1855); "Titan" (1854); "Challenge" (1853); "Invincible" (1853) built by the Amoskeag Mfg. Co.; the "No. 59" (1855) and "No. 60" (1855) built by the Detroit Loco. Wks.; and the "Daylight" (1854), "Moonlight" (1856) and "Starlight" (1857) built by the New Jersey Loco. Wks.

Of these 13 unassigned units, 12 must be allocated to the C. M. T. R. R. to make up its full complement of 19 locomotives, which it had at the time of its consolidation with the C. B. & Q. R. R. July 9, 1856.

The problem is to identify the remaining one unit acquired by the C. B. & Q. R. R.

The "Starlight" (1857) seems to be the answer, for both the C. & A. R. R. and C. M. T. R. R. had passed out of existence, the former February 21, 1855, and the latter, July 9, 1856.

The remaining 12 units, after eliminating the "Starlight" from the list of unassigned units above named, must be allocated to the C. M. T. R. R. to round out its complement of 19 engines.

From confirmed data together with general facts contained in the list of 1858, it is believed that the allocation of units in the accompanying statement is correct, or, as nearly so as can be ascertained.

Chicago, Burlington & Quincy R. R. Co.
Locomotive Roster 1858-1864

1	No. One	Amoskeag	#29	1851	4-4-0	14x20″	48″	38000 (AB)
2	Rocket	Stephenson	144	1835		Rebuilt in 1846 by		
		Hinkley & Drury			4-4-0	15x18″	60″	38000 (C&A)
3	Pigeon	Baldwin	93	1837	4-2-0	13x16″	60″	28000 (AB)
	Rambler—renamed			1864				
4	Aurora	Amoskeag	99	1853	4-4-0	15x22″	56″	50000 (C&A)
5	Batavia	Amoskeag	98	1853	4-4-0	15x22″	56″	48000 (C&A)
6	Excelsior	Amoskeag	—	1853	4-4-0	15x22″	56″	48000
7	Little Indian	Amoskeag	100	1853	4-4-0	15x22″	56″	50000 (C&A)
8	E. Corning	Schenectady	11	1852	4-4-0	14½x22″	60″	44000 (C&A)
9	See Note							
10	Talisman	Manchester	6	1855	4-4-0	15x20″	60″	54000 (CB&Q)
11	Wataga	Manchester	24	1855	4-4-0	15x22″	54″	56000 (CB&Q)
12	Tornado	Amoskeag	—	1853	4-4-0	16x20″	60″	50000 (C&A)
13	Hurricane	Amoskeag	—	1853	4-4-0	16x20″	72″	50000 (C&A)
14	Starlight	New Jersey LW	—	1857	4-4-0	16x20″	58″	64000 (CB&Q)
15	Moonlight	New Jersey LW	—	1856	4-4-0	16x20″	56″	64000 (CB&Q)
16	Daylight	New Jersey LW	—	1854	4-6-0	16x20″	46″	56000 (CB&Q)
17-18		No data						(CB&Q)
19	Lion	Amoskeag	190	1855	4-6-0	16x20″	46″	56000 (CB&Q)
20	Tiger	Amoskeag	189	1855	4-6-0	16x20″	46″	56000 (CB&Q)
21	Samson	Amoskeag	191	1855	4-6-0	16x20″	46″	56000 (CB&Q)
22	Brown Bear	Amoskeag	192	1855	4-6-0	16x20″	46″	56000 (CMT)
23	White Bear	Amoskeag	194	1855	4-6-0	16x20″	46″	56000 (CMT)
24	Black Bear	Amoskeag	193	1855	4-6-0	16x20″	46″	56000 (CMT)
25	Stag Hound	Amoskeag	197	1855	4-4-0	16x20″	66″	56000 (CB&Q)
26	Fox Hound	Amoskeag	196	1855	4-4-0	16x20″	66″	56000 (CB&Q)
27	Grey Hound	Amoskeag	195	1855	4-4-0	16x20″	66″	56000 (CB&Q)
28	West Wind	Manchester	17	1855	4-4-0	16x20″	66″	56000 (CB&Q)
29	North Wind	Manchester	15	1855	4-4-0	16x20″	66″	56000 (CB&Q)
30	Grey Eagle	Manchester	18	1855	4-4-0	16x20″	66″	56000 (CB&Q)
31	Golden Eagle	Manchester	19	1855	4-4-0	16x20″	66″	56000 (CB&Q)
32	Roebuck	Amoskeag	87	1853	4-4-0	16x20″	66″	52000 (CMT)
33	Reindeer	Amoskeag	84	1853	4-4-0	16x20″	68″	52000 (CMT)
34	Antelope	Amoskeag	83	1853	4-4-0	16x20″	72″	52000 (CMT)
35	Panther	Amoskeag	85	1853	4-4-0	16x20″	72″	52000 (CMT)
36	Titan	Amoskeag	161	1854	4-6-0	16x20″	46″	54000 (CMT)
37	Whirlwind	Amoskeag	94	1853	4-4-0	16x22″	60″	50000 (C&A)
38	Tempest	Amoskeag	95	1853	4-4-0	16x22″	60″	50000 (C&A)
39	Invincible	Amoskeag	—	1853	4-4-0	16x22″	56″	58000 (CMT)
40	Challenge	Amoskeag	—	1853	4-4-0	16x22″	56″	58000 (CMT)
41	Garden City	Chicago LW	—	1854	4-4-0	15x22″	60″	52000 (CMT)
42	Stranger	Chicago LW	—	1854	4-4-0	15x22″	60″	52000 (CMT)
43-46	Not Named	Detroit LW	—	1857	4-4-0	16x24″	60″	—— (CB&Q)
47	Not Named	Manchester	42	1856	4-4-0	15x24″	57″	60000 (CB&Q)
48	Not Named	Manchester	41	1856	4-4-0	15x24″	57″	60000 (CB&Q)
49	Not Named	Manchester	40	1856	4-4-0	15x24″	57″	60000 (CB&Q)
50	Not Named	Manchester	39	1856	4-4-0	15x24″	57″	60000 (CB&Q)
51	Not Named	Manchester	38	1856	4-4-0	15x24″	57″	60000 (CB&Q)
52-55	Not Named	Manchester	34-37	1856	4-4-0	15x24″	60″	58000 (CB&Q)
56	Not Named	Manchester	43	1856	4-4-0	15x24″	60″	58000 (CB&Q)
57	Not Named	Rogers	559	1855	4-4-0	14½x22″	60″	52000 (C&A)
58	Not Named	Rogers	561	1855	4-4-0	15x22″	60″	52000 (C&A)
59-60	Not Named	Detroit LW	—	1855	4-6-0	16x20″	46″	56000 (CMT)
61	Knox	Schenectady	92	1855	4-6-0	No data		(NC)
62	Hancock	Schenectady	109	1855	4-6-0	No data		(NC)
63	McDonough	Schenectady	119	1855	4-4-0	No data		(NC)

64	Adams	Schenectady	122	1855	4-4-0	No data		(NC)
65	Fulton	Schenectady	123	1855	4-4-0	No data		(NC)
66	John Wood	Manchester	29	1856	4-4-0	15x24" 60"	——	(NC)
67	Gen'l Taylor	Manchester	28	1856	4-4-0	15x24" 60"	——	(NC)
68	Augusta	Rogers	641	1856	4-4-0	15x22" 60"	——	(NC)
69	Quincy	Rogers	595	1855	4-4-0	14½x22" 66"	——	(NC)
70	Macomb	Rogers	596	1855	4-4-0	14½x22" 66"	——	(NC)
71	Peoria	Hinkley	444	1853	4-4-0	13x20" 60"	——	(P&O)
72	Burlington	Hinkley	445	1853	4-4-0	13x20" 60"	——	(P&O)
73	A. C. Harding	Hinkley	609	1856	4-4-0	15x22" 60"	——	(P&O)
74	Capt. Moss	Hinkley	583	1856	4-4-0	15x22" 60"	——	(P&O)
75	Elmwood	Hinkley	—	1856	4-4-0	No data		(P&O)
76	N. B. Curtiss	Hinkley	612	1856	4-4-0	15x22" 60"	——	(P&O)
77	G. S. Kettell	Manchester	26	1856	4-4-0	15x22" 60"	——	(P&O)
78	Prairie	Hinkley	582	1856	4-4-0	15x22" 60"	——	(P&O)
79	C. S. Clark	Lancaster LW	—	1856	4-4-0	No data		(P&O)
80	Wm. Kellogg	Lancaster LW	—	1856	4-4-0	No data		(P&O)
81	Not Named	Rogers	1057	1863	0-4-0	13½x22" 42"	——	(CB&Q)
82	Not Named	Rogers	1059	1863	0-4-0	13½x22" 42"	——	(CB&Q)
83-84	Not Named	Rogers	1063-1064	1863	4-4-0	16x24" 58"	——	(CB&Q)
85-88	Not Named	Rogers	1099-1102	1863	4-4-0	16x24" 58"	——	(CB&Q)
89-90	Not Named	Mason	139-140	1863	4-4-0	16x24" 60"	——	(CB&Q)
91-92	Not Named	Mason	142-143	1863	4-4-0	16x24" 60"	——	(CB&Q)
93	Not Named	Rogers	1110	1863	4-4-0T	10½x18" 54"	——	(CB&Q)
94	Not Named	Rogers	1113	1863	4-4-0T	10½x18" 54"	——	(CB&Q)
95	Not Named	Rogers	1120	1863	4-4-0	15x22" 54"	——	(CB&Q)
96	Not Named	Rogers	1122	1864	4-4-0	15x22" 54"	——	(CB&Q)
97	Not Named	Rogers	1208	1864	4-4-0	15x22" 54"	——	(CB&Q)
98	Not Named	Rogers	1213	1864	4-4-0	15x22" 54"	——	(CB&Q)
99	Not Named	Rogers	1219	1864	4-4-0	15x22" 54"	——	(CB&Q)
100	Not Named	Rogers	1223	1864	4-4-0	15x22" 54"	——	(CB&Q)
101	Mercer	Rogers	606	1855	4-4-0	15x22" 66"	——	(NC)
102	Warren	Rogers	601	1855	4-4-0	15x22" 66"	——	(NC)
103	Plymouth	Rogers	609	1855	4-4-0	15x22" 66"	——	(NC)
**	Troubador	Manchester	3	1855	4-4-0	15x20" 68"	54000	(C&A)
**	Cossack	Manchester	1	1855	4-4-0	15x20" 60"	52000	(CMT)
**	Tartar	Manchester	5	1855	4-4-0	15x20" 60"	52000	(CB&Q)
**	Arab	Manchester	4	1855	4-4-0	15x20" 60"	52000	(CMT)
**	Corsair	Manchester	2	1855	4-4-0	15x20" 60"	52000	(CMT)

** These engines, together with the No. 57 were leased to the Grand Trunk R. R. in 1860. The No. 57 was returned while the remaining five were sold to the G. T. R.

The No. One was originally named "Whittelsey" (1850), then "Winnebago" (1853). The former was traded to the Galena & Chicago Union for the latter in 1853 and, prior to 1858 was changed to "No. One."

The "Rocket" was originally built for the Boston & Worcester R. R. and sold to the Michigan Central in 1846. Before being shipped west, it was probably rebuilt at the Hinkley Works to a 4-4-0 type locomotive. In August, 1852, the Michigan Central sold the locomotive to the Chicago & Aurora R. R.

The No. 9 is still somewhat of a mystery. On the night of December 25th, 1863, the Aurora Machine Shops were destroyed by fire and the account in the Chicago Times of December 20th states that "a locomotive boiler belonging to the *Lonsdale*, which was being rigged into a new machine" was damaged by this fire. Further confirmation appears in the book of Repairs to Locomotives, Nos. 1-199, January 1864 to May 1876, contains the following concerning No. 9 (Lonsdale):

"May, 1865, repaired at Aurora. Entirely new except cylinders and part of boiler. Original engine burned in shop, December, 1863. Bishop & Company's engine truck wheels. Copper firebox."

In a letter written by F. H. Reynolds, formerly fireman of this engine, written Oct. 26, 1914, he referred to this engine as a worn out scrap heap in 1863 and, subsequent to its rebuilding, he ran this engine. It seems quite logical that it was an old locomotive. Taunton Locomotive Works No. 3, 8/1847 was built for the Providence & Worcester R. R. and named "Lonsdale," 14½x18" 60" drivers, inside connected. In 1855, the Taunton L. W. rebuilt two of their older locomotives, one of them named "Lonsdale" and they were both sold to western railroads and, we believe the "Lonsdale" went to the Peoria & Oquawka R. R. Certain it is that the C. B. & Q. had a locomotive of this name and this Taunton locomotive seems to fit this locomotive which fortunately has been photographed in its rebuilt condition.

The original ownership is shown in ( ):

AB—Aurora Branch R. R.
C&A—Chicago & Aurora R. R.
CB&Q—Chicago, Burlington & Quincy R. R.
CMT—Central Military Tract R.R.
NC—Northern Cross R. R.
P&O—Peoria & Oquawka R. R.

COPY COPY COPY

June 28, (1855)*

C. W. Baldwin, Esq.
Manchester, N. H.

Sir

The Engines you are making for Central Military Tract R. R. & for Chicago Burlington & Quincy R. R. (late Chicago & Aurora) may be named as follows

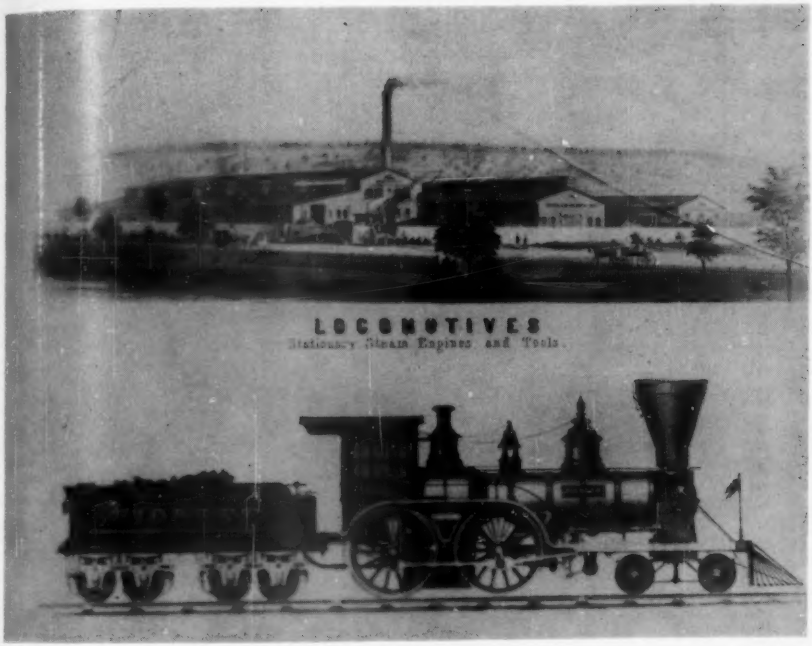
3 freight engines for Central Military Tract	Black Bear Brown Bear White Bear
3 freight engines for Ch. Burlington & Quincy	Atlantic Arctic Pacific
3 passenger engines for Ch. Burlington & Quincy	Grey Hound Fox Hound Stag Hound

Yours truly,

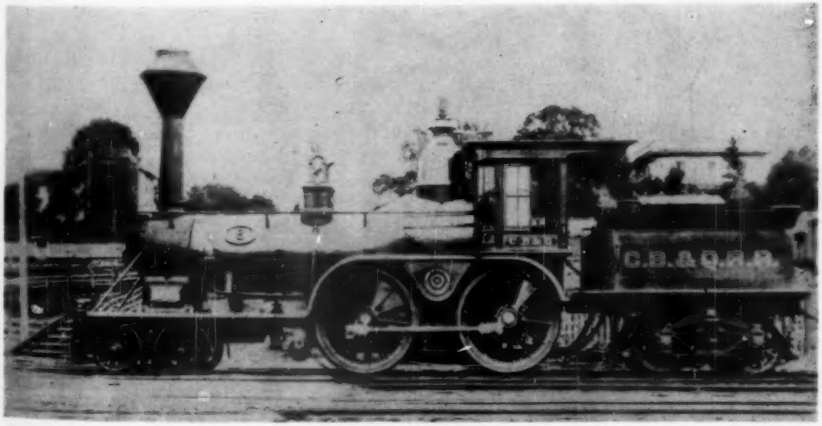
J. W. Brooks

— Burlington Archives in Newberry Library
Central Military Tract Railroad Company, J. W. Brooks. Letters. Feb. 8, 1854 to May 27, 1856. (iv. L.P.C.B.) p. 380

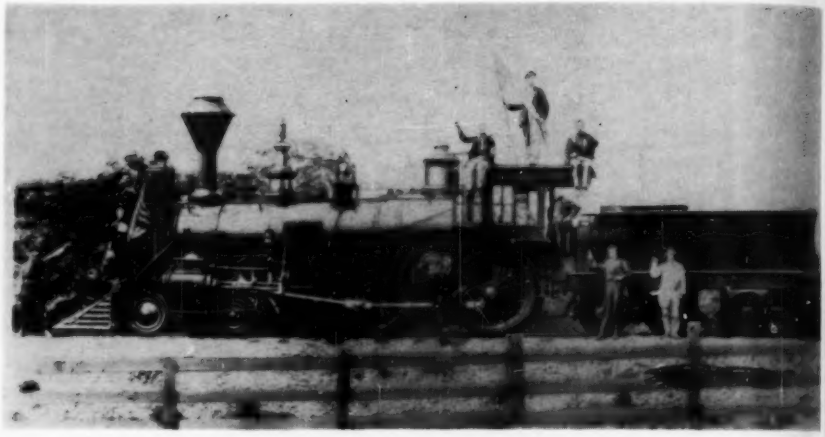
* Although no year is given on letter it can be assumed to be 1855 as next letter in book is July 7, *1855.*



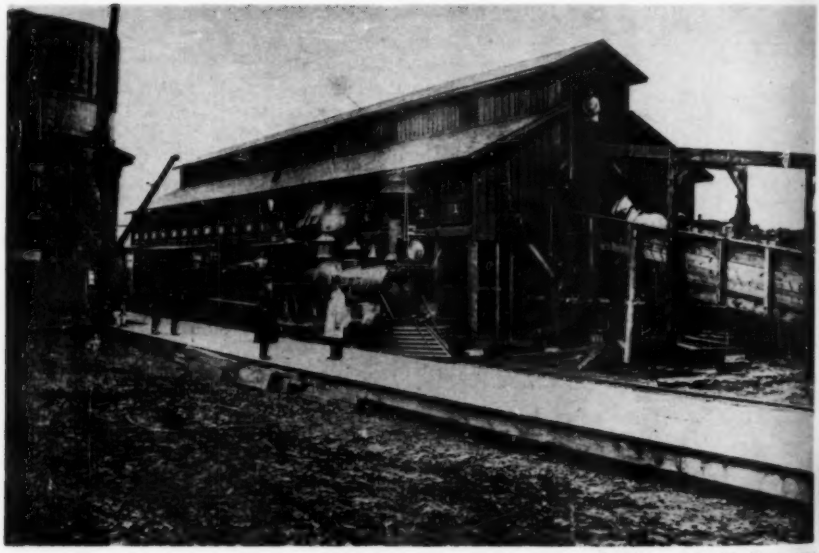
Central Military Tract "Cossack," Manchester 1855.



C. B. & Q. #9. See article for data.



C. B. & Q. #53, Manchester 1856.



Courtesy of D. W. Youngmeyer

Taken at Aurora, Illinois in 1870—shortly after chute was erected in 1869. The locomotive #39—was originally named the "Invincible" purchased by the Central Military Tract Railroad. The "High Hat" gentleman is the "D. S."

MEMORANDUM

In the winter of 1849 I went to Springfield, having been elected to the Legislature from Kendall County.

While in Springfield, I drew up a bill and introduced it into the Legislature. This bill was subsequently passed for a charter for a railroad from Aurora to connect with the Galena (now Northwestern) at or near Warrenville. When built the junction was made at what is now Turner Junction. This charter is the original of what now constitutes the Chicago, Burlington, and Quincy Railroad.

Sometime after, sufficient stock was subscribed to warrant the commencement of the work. The grading was finally completed from Aurora to Turner Junction and now came the tug of war: How to get the road equipped—it was finally decided to issue bonds. These bonds were guaranteed by the directors (of which I was one at the time).

From their sale we succeeded in purchasing a quantity of second hand flat rails to iron the road from the Buffalo and Niagara Falls Road, this road being about to relay their road with the "T" rail just being then introduced.

We also purchased a second hand engine called the "Whittelsey" and also a second hand passenger car and a few freight cars. This inaugurated what is now the C. B. and Q. Railroad.

Copied from "Story of the Life of Lorenzo D. Brady"; written in 1877, and now in possession of Mrs. Olive Beaupré Miller, his grand daughter.

French Locomotives for the Memphis, El Paso & Pacific R. R.

By Fred Jukes

During the early years of railroading in the United States, some one hundred locomotives came to us from Great Britain. This was quite natural as Britain was the birth-place of the locomotive and, at the time, the greatest manufacturing nation in the world. Of locomotives being ordered from France or other European countries for import to the United States we hear little or nothing until the advent of the de Glehn compound, bought by the Pennsylvania Railroad for experimental purposes.

The locomotive here illustrated was one of ten constructed by a French builder for an American road but which, through force of circumstances, never landed on our shores. This lot of engines was interesting on another count; they were completely European in design, if we overlook a few concessions to American practice, such as pilot, wood-burning stack, bell and cab. They came from the André Koechlin Works, of Mulhausen, Alsace, in 1870, at which time Alsace was French territory. The Koechlin Works later became part of the great French locomotive building firm, The Societe Alsacienne, with plants at Belfort, Mulhausen and Graffenstaden.

These Koechlin engines for the Memphis, El Paso & Pacific were of identical design, 0-6-0, with comparatively large boilers, and larger than ordinary drivers for an engine of that type, which was known as the "Stephenson Long Boiler." As usually fitted with small drivers, this type was long popular in continental Europe, but was soon discarded in Great Britain due to its unsteadiness in the higher range of speeds.

The M. E. & P. locomotives were both numbered and named, the latter after the larger streams in the area through which the road proposed building.

No.	Name	Works No.
1	Mississippi River	1253
2	White River	1254
3	Arkansas River	1255
4	Rio Salinas	1256
5	Washita River	1257
6	Red River	1258
7	Sulphur Fork	1259
8	Sabine River	1260
9	Trinity River	1261
10	Brazos River	1262

Dimensions	
Cylinders	18"x26"
Dia. Drivers	60"
Grate Area	17 sq. ft.
Heating S'face	1582 sq. ft.
Flues	14' 9½"
Boiler Pressure	127# psi
Weight (engine)	40 tons
Tender (water)	1700 gals.

Tenders were of the type used by both the Midi and the Paris Orleans Railways a hundred years ago. They were plate framed, high-sided and with racks to hold a plentiful supply of wood, and of rather small water capacity. The high racks were removed when the engines were eventually converted to burn coal.

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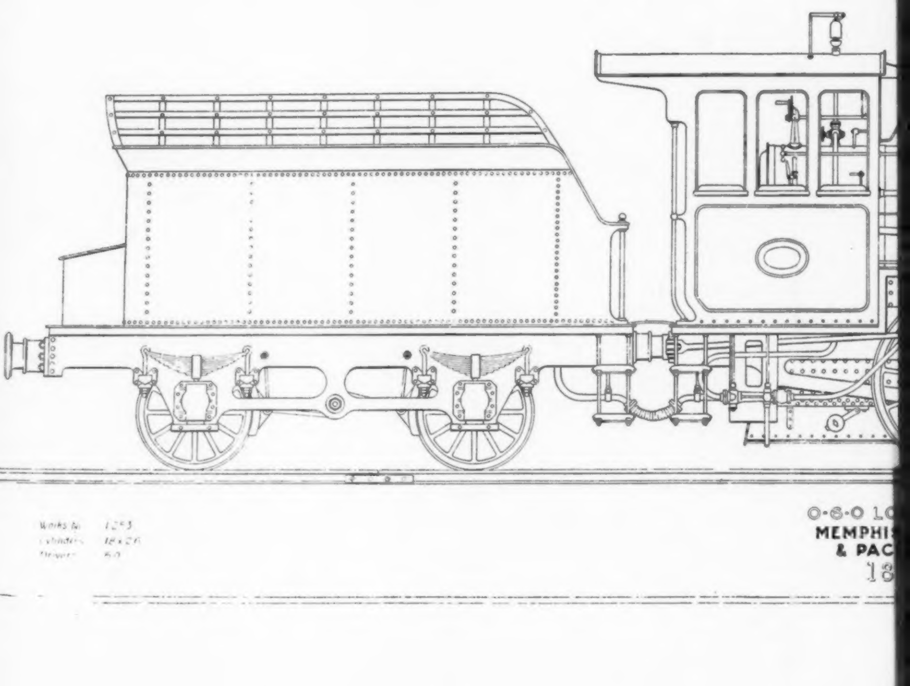

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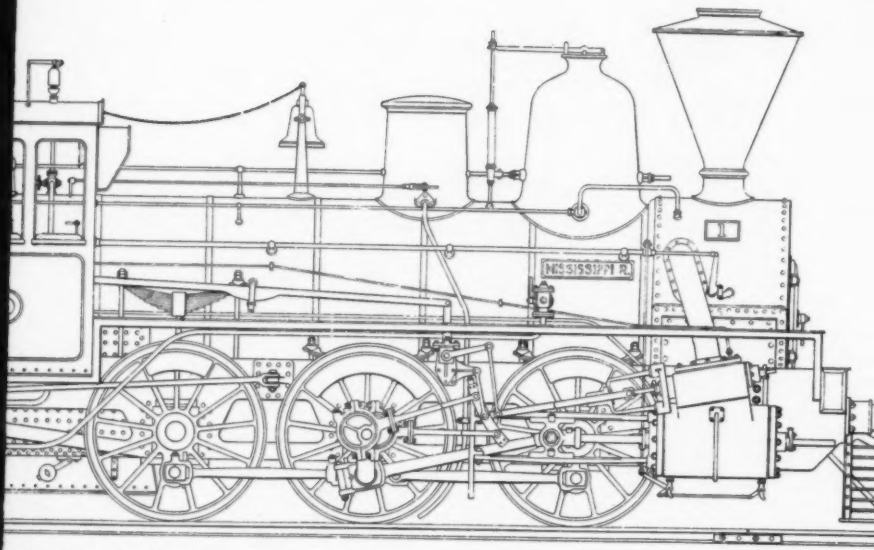
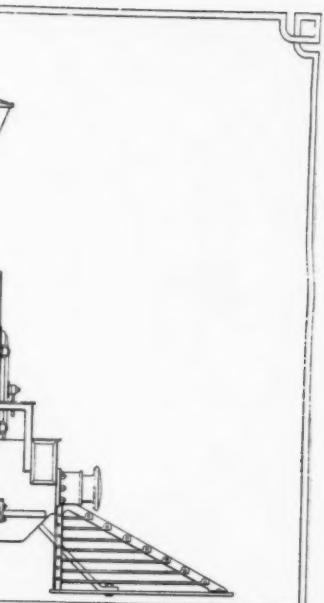


O-6-0 LOCOMOTIVE
MEMPHIS EL PASO
& PACIFIC R.R.
1870



built by
André Koechlin & Co.
Mulhausen Alsace.

Aside from buffers and screw couplings, which were universal in Europe, these Koechlin machines incorporated a number of features strange to the American railroader of the '70s. Valve motion was of the Gooch type, quite popular as an outside gear on the continent, and occasionally seen in America. This, with its sloping valve-seat and constant lead, was of the direct type. Cylinder cocks were operated by a lever actuated by a rod through the hand-rail, as was the practice on the Pennsylvania during the '80s. The system of bell-cranks on the side of the front-end was evidently to operate a variable exhaust nozzle of the double flap pattern, while the small water pipe above the running-board and leading to the cylinder castings is for the Le Chatelier counter-pressure brake. Unusual to Americans, although quite common in Europe at that time, was the placing of the blower valve, and its long stem to the engineer's side of the cab.

The throttle rod led forward from the cab, through the high bell frame and sand-box, and turned in stuffing-boxes at the front and rear of the dome. This might well be called ancient practice, for on London's first railway, the London & Greenwich, engine No. 1 had, in 1835, been fitted with identically the same arrangement.

The huge dome and outside dry pipes were decidedly unusual in America, as were the plate frames, whose side members were in one piece, to which the cylinders were bolted. No driver brakes were fitted, nor were equalizers used.

The boilers were large for their day, but not as large as appears, due to the low placement of the front end door. Each engine carried a name plate below the dome and a small number plate just below the stack.

Perhaps the oddest feature about these engines was the method of coupling to the tank. On each side of the engine, at a point on the frame between the main- and back-drivers, the front end of a tension rod connects with a bracket, while its back end is attached to a floating cross-member at the rear end of the engine. This, in turn, carries the coupling link to the tender. These rods from the brackets to the floating cross-member are never under compression, any strains in backing or holding a train being borne by the spring buffers. The advantage in coupling the front end of the draft rigging so far forward on the engine frame is that it lessens flange wear and contributes to better riding. Because of the small amount of lateral motion, the tension rods can be placed fairly close to the rear drivers.

Why, when they were intended for service on an American line, these engines were fitted with buffers and screw couplings in place of the universally used Link & Pin is hard to understand, and what our old time railroad men might have said, had they seen these strangers on Texas soil, would have been worth listening to. Why they never had a chance to play with them is another part of the story.

Reports of their trial trips indicate that the engines were good steamers, that they had plenty of adhesion and were easy running on sharp curves, but, owing to excessive overhang, they were decidedly unsteady at high speeds.

In 1870 the first two, when completed, were placed aboard ship at Antwerp. This ship was to call at Bordeaux en route to America, but, before she arrived there, the Koechlin firm got word of the financial straits of the M. E. P. & P., and immediately wired Bordeaux to have them put ashore. The other eight, in various stages of construction, were sold to Spanish and Portuguese railroads, the last deliveries being made during the summer of 1870. Two, which had been sold to the Tarragona, Barcelona & France Ry., finally went to the Madrid, Zaragossa & Alicante, being numbered 447 and 448. They were scrapped in 1906. Three went to the Asturias Galicia Leon Company, later the Northern Ry. of Spain, and were numbered 1651, 1652 and 1653 by the latter road; lastly, two went to the Lerida Reus Tarragona Company, and then became Nos. 1391 and 1392 on the Northern, where some of them were still running in 1927. Of the other three we have no record; but none of the lot ever arrived in America.

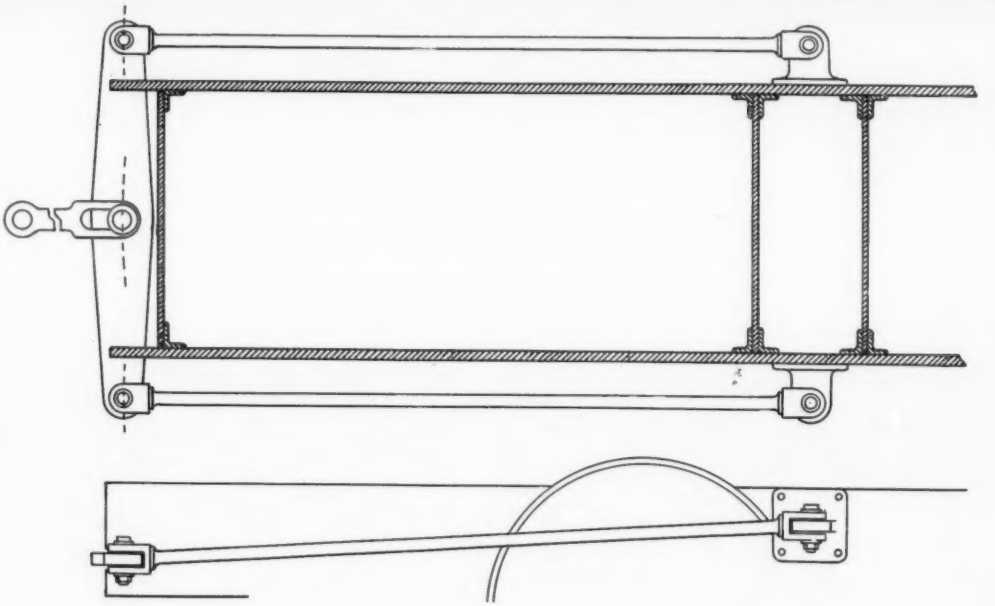
The M. E. P. & P. Railroad

The first charter of the Memphis, El Paso & Pacific was granted in 1853, and organization of the company, with its headquarters at Paris, Texas, was accomplished three years later.

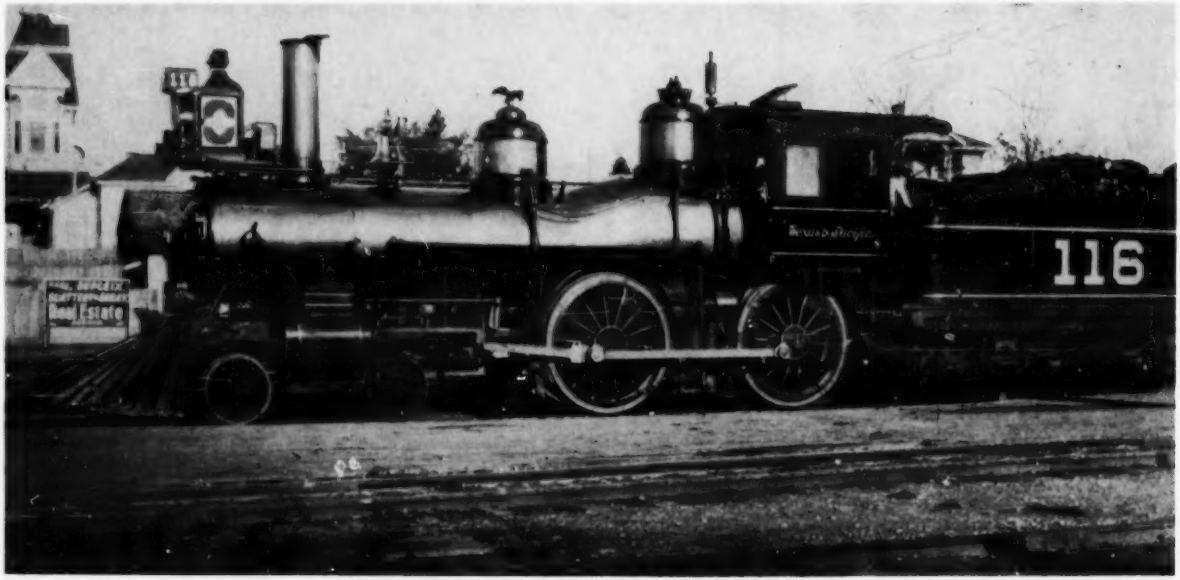
In 1852 the Texas Western was chartered but, owing to legal and financial difficulties, was never built. Its charter was renewed and its name changed to the Southern Pacific. This company, which had no connection with the present S. P., built ten miles of track from Caddo Lake, near Shreveport, La., toward Marshall, Texas, and was to connect with the M. E. P. & P. This was in 1856.

According to Poor's, 1869-70, the Memphis, El Paso & Pacific was incorporated to build from the eastern boundary of Texas, upon the 32nd parallel, to the Pacific, at San Diego. The company also owned the franchise of the San Diego, Gila & Southern Pacific, which was to form the western portion of the through route. Like the St. Louis & San Francisco, which never got within a thousand miles of the beautiful city by the Golden Gate, the M. E. P. & P. never reached the Pacific; it never even saw Memphis or El Paso.

While the road started without the Federal land grants, which aided most of the other big western lines, the Texas legislature came through with promises of millions of acres. By 1861 some sixty miles had been graded and rail partly laid when the Civil War intervened and construction was stopped. In the meantime, the legislature, under the Reconstruction Program which so throttled the South after the war, declared the charter void, and a new charter was granted under the name of The Southern Transcontinental Railroad Company. Frémont had put the balance of his once-great fortune into this venture, which he envisioned as a through route from Norfolk, Va., via Memphis, to the Pacific, at San Diego, a dream which was later, but only in part, realized by the Texas & Pacific. This road (T. & P.) came into possession of the new charter after the M. E. P. & P. had suspended payments and was forced into receivership. Through an agreement with the representatives



DRAFT RIGGING M.E.P.&P. LOCOMOTIVE



Texas & Pacific #116. At Shreveport, La., 1898. Built by the T. & P., at Marshall, Texas, Shops.

Photo by the Author

of the French bond-holders, title was finally transferred to the Texas & Pacific in 1876.

As for the M. E. P. & P. this defunct corporation survived until 1878, but only as an excuse for further litigation. In the meantime Frémont who, in his palmier days, had been instrumental in saving California for the Union, went down to financial oblivion.

The fact that the M. E. P. & P. bonds were so heavily sold in France explains why pressure was successfully applied to have at least some of the proceeds left in that country as payment for motive-power.

The accompanying photograph of Texas & Pacific No. 116 was taken by the author, at Shreveport, La., in 1898. The locomotive was designed by Supt. of Motive Power John Addis, and was built in the company's shops at Marshall, Texas. Addis died in 1901. No. 116 was the first Pyle-National-equipped engine seen by the author. Electric lights were also used in the cab, and under the running-boards to facilitate oiling around at night.

T. & P. passenger engines of that day were jacketed from cab to front-end with Russian iron and, with their raised numbers and lettering and neat proportions, were handsome little machines; and they were *always* clean. Old timers may remember the 116's deep-toned whistle, the louvre on her stack, the T. & P. eagle atop her sandbox, and the shining jackets on her dome and sandbox.

JOHN C. FREMONT

1813-1890

Frémont was far from being one of those who go through life on an even keel. The man who risked his all, on the plan of expanding the M. E. P. & P. into a transcontinental railroad, lived a life of drama, adventure and accomplishment that would make that of a knight of old seem mild and boresome.

Teacher, surveyor, engineer, explorer, rancher, millionaire, Major General and, finally, almost penniless. He was expelled from college for insubordination, eloped with a senator's daughter, and later became a senator himself. A Southerner by birth, one time Governor of Arizona and the first presidential candidate of the Republican Party (1856), he was beaten by Buchanan because of his stand against slavery.

This remarkable man, who was honored by having Wyoming's highest peak, a pass in the Colorado Rockies, and cities in Ohio and Nebraska named for him, and to whom high standards meant more than fortune, was not equipped to combat the rough-house tactics of the big railroad builders and wreckers of the day, who played their game with the public's money and sent road after road climbing to success or tumbling to bankruptcy. He spent his last years living on a small pension from the government of the country to whom he gave his best years.

(Sources. *Railroad Gazette, Poor's Manuals, Locomotive Magazine,* "Ox Teams to Eagles" (T&P), and *Life of Fremont,* by Nevins).

Of Builders' Plates and Construction Numbers

By F. Stewart Graham

(With thanks to C. E. F.)

One of the most positive, but still not infallible, means of identifying locomotives is through the plate bearing the builder's name, serial number and date of construction. These plates, variously called shop plates, builders' plates, badge plates, etc., were usually placed one on each side of the smokebox, centered front and back, and about midway between top and bottom. Occasionally, due to construction features, it was necessary to place them elsewhere, such as on the sides of the cylinders, or even on the sides of the tenders in the case of certain tank-type engines. Plates varied greatly in size and design. The final standard plate for steam locomotives used by the American Locomotive Company was about fourteen inches long by seven and one-half inches high. The final circular Baldwin plate was nine and one-quarter inches in diameter, although this was preceded by two other standards, one of the 1880's and 1890's being about eleven and one-half inches in diameter, and a later one, of the early 1900's, about 24 inches in diameter.

There were cases in recent years in which the Baldwin Company used an oval plate concurrently with their circular plate, as evidenced by a large number of them on B. & O. engines, a special design in this case to include the locomotive classification in addition to the usual badge plate data.

Shop plates, as commonly known since about the 1880's, were preceded by at least two other identifying insigne. One, and perhaps the earliest, was of large and elaborate design, often mounted between the pairs of driving wheels, and probably fastened to the frames. They were ornate and attractive; some showed shop number and date, while others showed only the builder's name and location. The second was placing of the builder's name on a plate fastened to the side of the steam chest. This practice was carried on even after the adoption of the so-called shop plates, and well into the present century. The Rogers cylinder plate of this type was especially handsome, having the name "Rogers" in brass or copper letters inlaid in a metal plate of contrasting color.

Mason and other builders had their names cast on the side of the cylinders, just below the steam chests, and for a number of years, the Hinkley shop numbers were cast on the cylinders, at about the same place.

Each of the many builders used a standard plate of their own design and, although this standard was occasionally changed, the mere design of a plate often served to identify the builder. The circular plate was the most popular, and was used at one time or

another by Baldwin, Brooks, Cooke, Dickson, the Pennsylvania Railroad and others. It was also used by the American Locomotive Company for a short time after formation of that company in 1901.

The Rhode Island plate was oval, which shape was later adopted by the Pennsylvania R. R. Richmond, of the earlier builders, and Lima, of the later ones, used a diamond-shaped plate, while Pittsburgh, Rogers, and Schenectady used an oblong plate, that of Rogers being quite narrow. The Schenectady plate most nearly approached the design finally adopted by the American Company; and this design, in use for over forty years, was slightly altered about 1946. Locomotives of the H. K. Porter Company were readily recognized by their characteristic shield-shaped plate.

Pennsylvania R. R. plates, including those on engines built by locomotive companies, always showed classification and serial number, and, if the classification was changed, as was done many times, new plates were substituted for the old ones. Locomotive companies had to furnish plates conforming to the P. R. R. standard oval on all engines built for that road.

Engines of both the Baltimore & Ohio and Reading Companies were fitted with plates showing class figures. The former road's were oval, quite similar to those used by the P. R. R. The Reading plate was oblong, not unlike the standard ALCo plate, and showed class figures as well as builder's date. This special plate was discontinued by the Reading Company, when that Company abandoned the use of plates, and painted class figures on the cab sides.

An unusual variety of plate was developed as a result of the New York Central having a number of Consolidation type engines rebuilt to Mikados by the American Company. In this case, the original plates were replaced with new ones showing both the original plant and date AND the rebuilding plant and date.

Prior to 1901 many shop plates were made of cast iron, except the Baldwin plates, which were brass. The American Locomotive Company adopted the brass plate, for which cast iron was substituted during the years of the World Wars. Some times, especially in the case of locomotives built by the railroad companies, the badge plates showed the engine's classification, the class figures being more prominent than the other data.

Since most plates were placed on the smokeboxes, where they were subjected to intense heat and constant painting, the lettering soon filled up with paint and dirt, and, unless given some care, became barely legible. In the case of one style of plate used by the Brooks Works, the serial numbers were of such large size that they were nearly always easily read, and were usually legible even in small photographs.

A number of railroads made it a practice to remove all builders' plates at the earliest moment, either upon receipt of the engines from the builder, or at the first shopping. Without this source of identification, it became very difficult for an outsider to locate, trace or identify motive power. On the other hand, many roads were very

careful to retain plates and went to some trouble to do so, as witnessed by the case of certain engines on the Rutland. Here, when the plates were in the way of the application of outside steampipes through the smokebox sides, they were carefully removed and re-located further to the front. Quite by contrast is the case cited on the Union Pacific, at their Pocatello Shops, where a major program of replacing smokeboxes took place in the 1940's. The plates were saved from the old smokeboxes, but ANY pair were picked and fitted on the new smokebox of any engine that was ready for them, resulting in such incongruities as a 2-8-8-0, built in 1923, displaying ALCo-Brooks plates from a 1912 Mikado, and vice versa!

Still another practice which resulted in utter confusion in identifying locomotives through shop plates was the so-called "boiler swapping," as practiced on some railroads. For example, a locomotive is shopped for boiler repairs. The boiler for an identical engine is ready to be placed on the chassis, which is still undergoing repairs. The repaired boiler is placed upon the running gear of the engine just brought in and, presto, an engine is available for service, but shop numbers and road numbers, to say nothing of records, are irretrievably mixed up.

Errors in application of plates by the locomotive companies themselves are not unknown. At this writing, a diesel switcher on the Jersey Central, No. 1054, shows shop number 75027 on the right hand plate and 75053 on the left, and, to further complicate things, diesel No. 1055 shows 75027 on both plates. Builder's records show that the correct shop number for No. 1054 is 75026, and that 75053 covers Oliver Mining Company No. 933.

Records of the Brooks Company, and of the D. L. & W., indicate that shop numbers 3463-3469 were applied to D. L. & W. Nos. 1001-1007, respectively. There is photographic evidence that No. 3464 was on No. 1001, but it will never be known whether this was the result of carelessness in applying the plates or of boiler "swapping." The shop numbers on engines 1002-1003 are in doubt, as their plates were removed before the writer discovered the above discrepancy.

Even the records of the railroads themselves should be subjected to close scrutiny. Those of the Lackawanna M. P. Department always showed shop numbers of both engines, Nos. 855 and 981, as Schenectady No. 5800, whereas that number belonged on No. 855, and the correct construction number of No. 981 was 6122.

Shop or Construction Numbers

It would seem that the assignment of a serial number to a unit the size of a locomotive should be a simple process. It would also seem that such serial number would represent the sum total of such units produced by a builder to the time the serial number was applied. To the sorrow of the locomotive historian neither assumption is correct. However, for many of the earlier builders, especially those who constructed relatively few locomotives and who passed out of existence in the last century, their records, if extant, will go more or

Builder's Plates. Description at end of Article.

less unchallenged.

The serial number records of those companies that survived into the present century, particularly Baldwin and the companies merged into the American Locomotive Company, are the subject of much research, reference and use. As such they come under constant scrutiny and any irregularities are brought to light, usually investigated, and occasionally explained.

It is obvious that the various builders observed different practices in assigning shop or serial numbers. Some were assigned upon receipt of the order for the locomotives. In this case, cancellation of part or all of the order would result in numbers so assigned not being used. Here, the serial numbers did not indicate the true number of engines built by the company involved.

It was the practice of the Baldwin companies to place badge plates (hence assign shop numbers) on its locomotives as they left the finishing shop. Very seldom were numbers allotted in advance. There were virtues as well as faults in this method, for, while it practically assured the use of every number, and in chronological order, it seriously interfered with the correlation between serial numbers and road numbers of the engines, and destroyed any sequence of shop numbers in a given order. This practice was somewhat changed in later years, so that a group of locomotives in a given order received successive serial numbers.

Changes in the ownership of some of the locomotive companies resulted in the inauguration of a new set of serial numbers starting with number one, and, in some instances, it is doubtful that shop numbers were actually placed on the locomotive.

Formation of the American Locomotive Company, in 1901, resulted in reducing the number of major locomotive companies to two, later to become three upon the rejuvenation of the Lima Company. Up to the time of the merger of the eight locomotive building companies into the American Locomotive Company, these firms had built approximately the following numbers of locomotives under their independent operation.

Builder	Years Operated	Last C/N	Last Locomotive as an Independent Company
Brooks	1869-1918	4114	N.Y.C.& St.L. No. 128, 2-8-0, 19x28-62. 2/1902.
Cooke	1852-1926	2755	State Ry. of Chile No. 290, 4-6-0, 18x24. 2/1902.
Dickson*	1863-1909	1387	Fitzhugh Co. No number, 0-4-0, 9x14-29. 10/1902.
Manchester**	1856-1913	1793	W.Va.Short Line No. 106, 18x24-50. 8/1901.
Pittsburgh	1865-1919	2418	St.L.Memphis & S.E. No. 22, 4-6-0, 20x26-62. 5/1902.
Rhode Island	1866-1907	3376	A.T.& S.F. No. 849, 2-8-0, 16&28x32-57. 2/1902.
Richmond***	1886-1927	3318	V.S.& P. No. 312, 4-4-0, 18x24-68, 1901.
Schenectady	1848	6209	C.& N.W. No. 596, 4-6-0, 21x26-63, 1901.
		25370	

* The first locomotive built by Dickson was given shop number "0".

** Manchester figures do not include 231 built by the Amoskeag Company.

*** Richmond applied shop numbers to many non-locomotive units. They built approximately 1000 locomotives, their first one having been built in 1887, shop No. 1612.

The total number of locomotives built by these companies prior to the merger was somewhat less than 25,000 (allowing only 1000 for Richmond), but the new A. L. Co. started its series with that number.

In 1904, the American Company took over the Rogers Locomotive Works, and, in 1905, opened a new plant in Montreal, Canada. Up to this time, the Rogers Company had built 6272 locomotives, according to the last shop number applied by them as an independent company. However, at the time Rogers, Ketchum & Grosvenor Company underwent a re-organization, upon the death of Thomas Rogers, April 19th, 1856, a new series of shop numbers was started. But there were 19 engines built after his death, under the old R. K. & G. partnership, their final shop number being 686. The successor company, Rogers Locomotive & Machine Co., began this new series, but also continued the old series, for their number "1" also carried shop number 680, and Nos. 680 through 686 were used a second time. The dual series (the original R. K. & G. and the R. L. & M.) were continued until 1865, when *this* series was discontinued and the old R. K. & G. series continued, these numbers having been carried right along. The highest Rogers number, when A. L. Co. took over, was 6272, but actually there were seven numbers duplicated, making a true total of 6279 locomotives.

When the Rogers plant was merged, A. L. Co. first took credit for 6270 engines built by the Rogers companies and jumped their serial numbers, first from 31247 to 37518 (6270 numbers), and, shortly thereafter, left blank numbers 37587 to 37597 (11 numbers), or a total allowance of 6281 numbers for the 6279 engines presumed to have been built by Rogers. Hence, A. L. Co. Nos. 31248-37517 and 37587-37597 were never used. Rogers No. 6272 was applied to Mobile, Jackson & Kansas City No. 32, a 4-4-0, 18x24-69, March, 1905.

Few railroads applied serial numbers to locomotives built in their own shops, the P. R. R. being one of the notable exceptions. That company had two locomotive construction shops in Altoona, Pa., the first being the 12th Street Shops, where the first locomotive was built in 1866, and the last, shop number 2289, in February, 1904. In the meantime the Juniata Shops, also in Altoona, were opened in 1891, using a separate series of numbers starting with shop number 1. These numbers have continued on ever since; the last steam locomotive built was a class T-1, road No. 5524, built late in 1946, and bearing Juniata Shop No. 4584. Some time in the late 1930's, the plates were marked Altoona Works, instead of Juniata Shops, but the locomotives were actually built at Juniata, and there was no break in the series of shop numbers.

As noted in a preceding paragraph, there have been cases of a locomotive builder erroneously applying two different shop numbers to one locomotive, although, fortunately, such slips are extremely rare.

In a number of instances serial numbers were applied to other than locomotives. Of the 3318 numbers applied by the Richmond Works, roughly only 1000 were on locomotives. The American Locomotive Com-

pany (and its predecessor plants) and the Lima Company assigned shop numbers to snow plows, but neither company assigned their locomotive serial numbers to war material, such as tanks, gun mounts, etc. This was not the case with the Baldwin Company, whose war equipment was given numbers right in with those of the locomotives. Thus, ALCo. numbers very closely indicate the actual number of all locomotives built, i. e., steam, electric and diesel electric. As can be seen from the foregoing, this is not true of Baldwin numbers.

While the majority of the products of the Lima Company, prior to the introduction of the diesels, was the steam locomotive, they built two distinct types, viz., the Shay-geared type and the rod type, and that company's assignment of serial numbers is interesting. When Lima first started to build locomotives in 1879, shop numbers were applied to both the Shay-geared and the rod engines in sequence, in the same series. About 1902, it was decided to give each of the two types its own series of numbers, and, upon reaching number 725, the Shay engines were continued in the series, and a series for rod engines, starting at 1000, was inaugurated. However, the Shay engines reached No. 999 in 1905, and a new Shay series was started with No. 1500. Then the rod engines reached No. 1499, in 1915, and were next numbered in a series beginning with No. 5001. Thus a summary of the Lima numbers would appear about as follows:

Nos.	Years	Type Locomotive
1-725	1879-1902	Shay and rod locomotives.
726-999	1902-1905	Shay geared.
1000-1499	1904-1915	Rod locomotives.
1500-3354	1905-1945	Shay geared.
3355-4999		Vacant.
5000-9560	1915-1951	Rod and diesel electirc locomotives.

Introduction of the single-unit diesel electric "locomotive" presented no problem in assigning serial or shop numbers, other than to mix in this type of motive power with the steam and the comparatively few electric locomotives. The multi-unit diesel did present a new phase, for it required a separate shop number for each of the units making up what was referred to as "one" locomotive, so that a multi-unit diesel might have as many as four serial numbers.

The numbering system adopted by the Electro-Motive Corporation was complicated to the extent that three units A, B, and C were not assigned serial numbers in that sequence, but, rather, in the A-C order, with all of the B units numbered in a sequence following the highest C number in a given group. To the builder this system was probably satisfactory, even sensible, but to the uninitiated, and even to some railroad officials, it seemed that a much simpler and equally satisfactory system might have been devised.

Plates Illustrated

Plate No.	Description
1508	P. R. R. standard plate showing locomotive classification. From No. 3153.
26418	Early ALCO—Manchester plate from Rutland No. 45.
5406	Schenectady plate from Rutland No. 150.
13026	Medium size Baldwin plate, from No. 36, Chicago South Side Rapid Transit Co. Last owner, Grasse River R. R.
58005	Small Baldwin plate, from Washington, Brandywine & Pt. Lookout No. 5. Last owner, Hoosac Tunnel & Wilmington R. R.
40001	An ALCo built-rebuilt plate from N. Y. C. No. 1592.
53845	Standard ALCo plate, from Mac-A-Mac No. 2. Last owner, Grasse River R. R.
60159	Cast iron plate from Rutland No. 110. Note spelling of "Pittsburg*b*".

More About Vermont's Railroad War

Seizure of Troy & Boston R. R. locomotives by the Bennington & Rutland R. R., in 1867, was described in Bulletin No. 90, on pages 101 and 102, as taken from the columns of the *Bennington Banner*. Naturally, the entire incident was reported giving the Vermont point of view. The New York State version of the affair, as reported by the *Troy Daily Times*, of Friday, January 18th, 1867, has been submitted by member Joseph A. Smith, of Troy, N. Y., and, as might be expected, places the blame for the "war" on the Vermont road.

Following is the account, which appeared under the heading "Attachment Against the Rolling Stock—Claim Against the Company—A Summary Proceeding."

"For a long time past, it is well known to our citizens, a feeling of opposition to the Troy & Boston Railroad Company has manifested itself on the part of Mr. T. W. Park, a wealthy citizen of Bennington, and the principal owner of the Western Vermont Railroad. The Troy & Boston Co., for the purpose of securing connections with the East, ten years ago leased the Western Vermont road and have run it during all that time. Mr. Park, at the time of the execution of the lease, was in California, and upon his return purchased a controlling interest in the latter road. Last Winter he sought to secure a grant from the Legislature of New York, for a railroad from Bennington to Chatham, thence to connect with the Harlem Road, his object being to injure the City of Troy and especially the Troy & Boston Railroad. In this he was defeated by Trojan enterprise, and under this defeat, he has been smarting ever since. Previous to the expiration of the lease of the Western Vermont Road, the Troy & Boston Company applied to become the lessors for another term, and made an offer to Mr. Park, which was rejected. He then leased the road to ex-Governor Smith of Vermont.

"When the Troy & Boston folks took over the Western Vermont road, its condition was unfit for the safe and commodious transportation of passengers and freight. This road was put in good repair—an item of $40,000 being expended on bridges alone—and when it was turned over to Mr. Park, on Wednesday last, (the time of the expiration of the lease), it is said that the road was $100,000 better than when the lease was executed. Mr. Park claims that the road was not in as good condition as when the Troy & Boston Company assumed control of it, and brings suit for the recovery of $200,000 (Two hundred thousand dollars) damages.

"In Vermont, the statute allows the plaintiff to issue an execution, without prior notice, against the goods and property of defendant. As soon, therefore, as the lease expired, Mr. Park was prepared with his writ of attachment against all the rolling stock of the Troy & Boston Company in Vermont, and without informing the company that he had even a claim against it, he put in execution the summary arrangements made, which, if carried out, would have suspended the working of the road for an indefinite period. The object is plain to be seen—the secrecy

with which the proceedings were initiated proves that Mr. Park plans simply to embarrass the road—and the animus of the whole matter is not difficult to determine.

"The writ, as we have said, covered all the property of the Troy & Boston road in Vermont. On Wednesday evening, at the time when four locomotives, two trains of passenger cars, a freight train and a wood train were at North Bennington, the Sheriff of the county served the process and took possession of the property. Switches were turned, and the train bearing the United States Mails, was run off the track. The engines were the "I. V. Baker," "R. P. Hart," "John Paine," and "Wallingford." But the employees of the company were not disposed to surrender the property without an effort. The master mechanic, Foster Church, and the roadmaster, John L. Wellington, disposed of the Sheriff's agents who were left in charge of the property, and ran off the "Hart" and "Baker," the first with the passenger train attached to it. During this proceeding, something of a tussle ensued between the contending forces, but the road men came off victorious. Since then, Mr. Wellington has been arrested and held to bail in the sum of $30,000. One of the Sheriff's posse remained on the train and quite a struggle ensued between him and the fireman, Burr Cole. Burr finally disposed of him by throwing him off the engine at the state line. Thus this amount of property was saved to the company.

"After the seizure at North Bennington, the engine "Hiland Hall" was run to Rutland with a Sheriff's officer, to seize the "D. T. Vail" engine at Manchester, and the "Walloomsac" and a passenger train at Rutland. The engine at Manchester was seized, but a telegraph dispatch enabled the operators at Rutland to run off the train via the Rutland & Washington Railroad.

"At Pownal (Vt.), the train bound for Adams, with the "General Wool" engine, was seized, and passengers were conveyed to their destination by means of sleighs. About five o'clock yesterday morning, a special train was dispatched from Eagle Bridge to Pownal with instructions to recapture the "Wool" and the cars. When the train arrived at Pownal, it was found that the Sheriff, a prominent Bennington attorney, and the keeper of the engine were at breakfast, leaving the property unguarded. The engine and cars were at once seized by the agents of the road and run off to the state line.

"Mr. D. T. Vail, the president of the Troy & Boston road, and Mr. Daniel Robinson, Vice-president, are in New York, but have been informed by telegraph of the occurrences of Wednesday evening. Mr. Moseley, the Superintendent of the road, by the aid of such property as was run out of the Sheriff's hands, was enabled yesterday to maintain the connections of the road, with the exception of that portion between Hoosick Junction and the state line, where it is likely, for the present, nothing more than mail service will be performed. The whole matter will now be determined by the courts; and it is more than likely that instead of Mr. Park having a claim against the Troy & Boston road, the company will have a valid one against him."

On the following day, January 19th, 1867, the same newspaper printed the following item, under the heading of "The Troy & Boston Railroad Difficulty."

"There are no new developments in the matter of the difficulty between T. W. Park, of Bennington, and the Troy & Boston Railroad Company. It is claimed by the company that Mr. Park has got himself into a serious legal complication by his attachment of their property, as chattel mortgages upon rolling stock would protect it, even by Vermont courts, from seizure under a writ of attachment. The Company will not release the property now held by Mr. Park but "will let it rot on his hands" and sue the autocrat for damages. Mr. Park has got a good-sized lawsuit on his hands at this time.

"Wellington, the roadmaster, who opened the switch to enable the engineer to run off one of the attached trains is still in prison—his bail having been increased from $30,000 to $40,000. He will, however, be soon released; and it is said no action will hold against him, as he simply unlocked a switch, which had not been attached and was still the Company's property. If the engineer run (sic) off with the train, Wellington was not of course responsible for his action."

F. S. G.

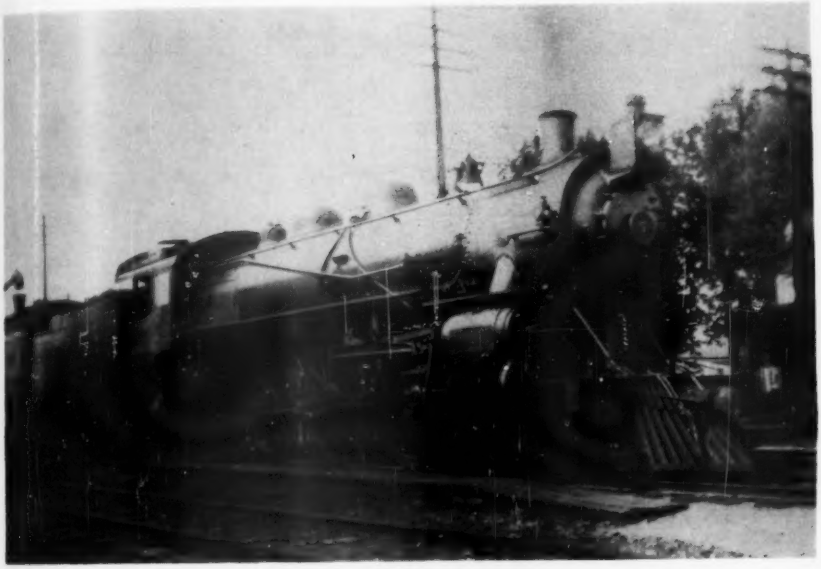
The Vandalia

By Charles E. Fisher

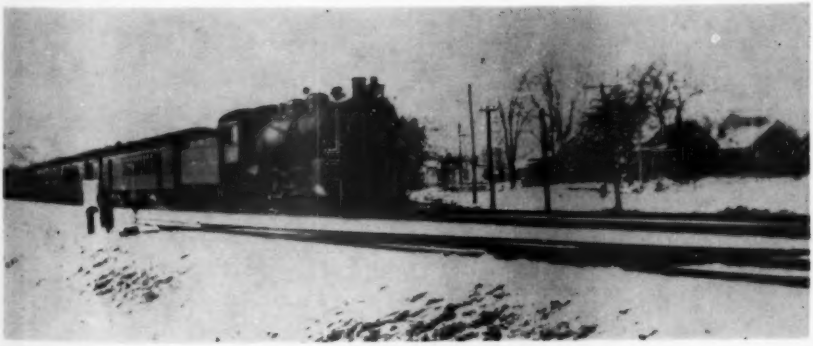
My first introduction to this interesting railroad was through Cy Warman's book—"The White Mail." Tommy Maguire, our hero, was the pump boy at Lick Skillet and, after many adventures, including saving the "White Mail" from a watery grave, he heads for Colorado where he rises to fame and fortune. Perhaps there was a kinship between the "White Mail" and the equally famous "Ghost Train" that ran between Boston and New York over the New York & New England and the New Haven Railroads. Whatever it was, this little railroad in southwestern Illinois and Indiana with its locomotives, has always been of interest to this author.

As early as 1847, the Terre Haute & Richmond R. R. was chartered to build between those two towns and the 73 miles between Terre Haute and Indianapolis were completed in 1852. At Terre Haute this line connected with the St. Louis, Alton & Terre Haute R. R. and at Indianapolis with the road to Galion, Ohio where connections were made with the Cleveland, Columbus & Cincinnati R. R. Subsequently the C. C. & C. and the roads to Indianapolis were consolidated into the Cleveland, Columbus, Cincinnati & Indianapolis R. R. and at Crestline, the Pittsburgh, Ft. Wayne & Chicago Ry., which was also a consolidation of several small railroads crossed the C. C. C. & I. R. R. Both of these railroads turned their St. Louis traffic over to the two railroads west of Indianapolis. The Indiana Central Ry. was organized to build from Indianapolis to Richmond and thence to the Indiana-Ohio state line. This 72 mile line was opened to New Paris, Ohio in 1853 and here they connected with the Dayton & Western R. R., but it was not until a connecting line was built from New Paris to the Columbus & Indianapolis R. R. in 1863, and the completion of the Pittsburgh & Steubenville R. R. in 1865 that this route assumed any importance. By 1867 there were these three competing routes for the St. Louis traffic through Indianapolis.

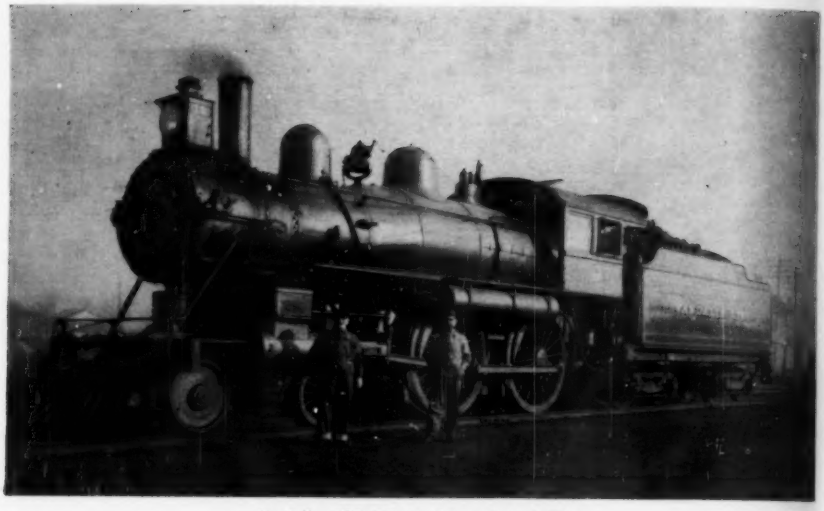
Joint agreements were first tried out, sooner or later one of the three wanted exclusive control of the entire route. In 1868, George B. Roberts, of the Pennsylvania R. R., with three others, secured a charter for the building of the St. Louis, Vandalia & Terre Haute R. R., parallel to but some distance from the St. Louis, Alton & Terre Haute R. R. Construction was immediately commenced and at the outset, on February 10th, 1868, the road was leased to the Terre Haute & Indianapolis R. R. for 999 years. The C. C. C. & I. had not been idle and the Indianapolis & St. Louis R. R. was chartered August 31st, 1867, to build between Indianapolis and Terre Haute and to connect with the St. Louis, Alton & Terre Haute R. R. Both of these new roads were completed in 1870 and thus there came into being, two parallel lines, each of about 230 miles in length being built through a country that was barely able to support but one.



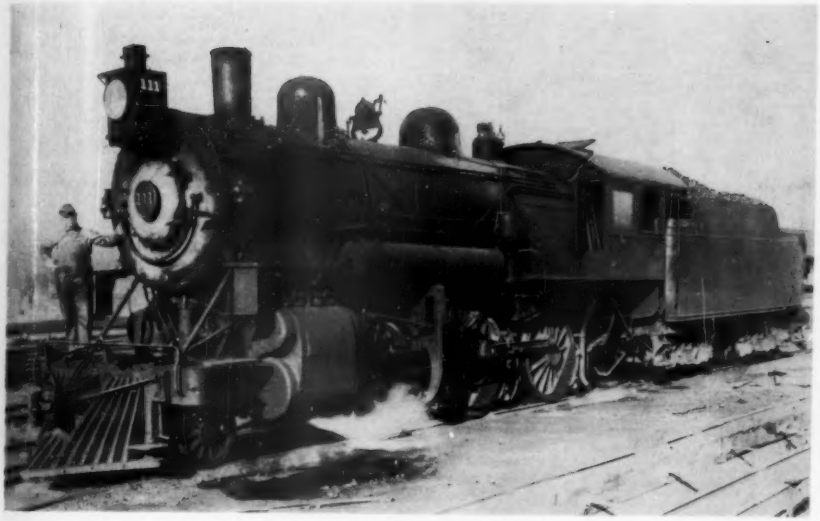
Vandalia #5, VK-1s, Schenectady 1912.



Vandalia #8, VK-1s, Schenectady 1912, approaching Effingham, Ill.



Vandalia #16, VD-6a, Schenectady 1899.



Vandalia #111, VF-5a, Schenectady 1907.

Vandalia #20, VE-1, Schenectady 1902.

Vandalia #146, VF-5, Schenectady 1904.

Vandalia #528, VG-4, Pittsburgh 1893.

Vandalia #121, VF-4, Pittsburgh 1896.

In 1895 the Pennsylvania R. R. acquired control of the Terre Haute & Indianapolis and subsequent to the receivership, on January 1, 1905, the Vandalia R. R. came into being. This was a consolidation of the Terre Haute & Indianapolis R. R., the St. Louis, Vandalia & Terre Haute R. R., the Terre Haute & Logansport R. R., the Logansport & Toledo R. R. and the Indianapolis & Vincennes R. R., an 800 mile system extending from East St. Louis, Illinois to Indianapolis, Vincennes, South Bend and Butler, all in Indiana. Like the Grand Rapids & Indiana R. R., the Vandalia was operated by its own management but, like all of the other controlled roads, it was brought into the Pennsylvania "family" by a consolidation with the Pittsburgh, Cincinnati, Chicago & St. Louis R. R. on December 10th, 1916.

The records of the Baldwin Works show that they supplied the first twenty-five locomotives to the St. L. V. & T. H. R. R. between 1867 and 1870. These were chiefly of the 4-4-0 type and were typical Baldwin engines of the period. Additional locomotives were purchased from both the Baldwin and the Pittsburgh Works and these were assigned to the roads controlled by the Terre Haute & Indianapolis. In 1890 there was a group of 4-4-0 engines received from the Pittsburgh Works with 19x22″ cylinders and two years later, from the same works came a group of 4-6-0 type locomotives with 20x26″ cylinders and 72″ drivers.

As the result of my visits to that section, there were several groups of their locomotives that left a distinct impression with me. In 1895, the Schenectady Works completed four 4-4-0 type locomotives with 20x24″ cylinders, plain slide valves, 73″ drivers and weighed 129,000 lbs. In 1899, four more of the same type were delivered with 20x26″ cylinders and 78″ drivers. These were typical Schenectady designs found on many of our railroads—B & A, C & N W New Haven and Northern Pacific and unless too heavily loaded, they could turn in a fine performance. Between 1902 and 1910, the Schenectady Works delivered nineteen locomotives of the Atlantic type. The first lot had plain slide valves, those that followed had piston valves. The first group had 20½x26″ cylinders and those that followed had 21x26″ cylinders. All had 79″ drivers and the last group weighed 187,700 lbs. The last ten of this group were subsequently superheated. Their last passenger engines were three groups of Pacific type locomotives from the Schenectady Works delivered between 1910 and 1913. All had 24x26″ cylinders, 80″ drivers and the last eight engine weighed 263,000 lbs. The first group were not superheated upon delivery but superheaters were subsequently applied. All had the Walschaerts valve gear, carried 200 pounds steam pressure. They closely resembled the K-28 class of the P. R. R. and they could and did handle successfully the trains between Indianapolis and St. Louis.

The Vandalia used the Mogul type extensively for freight service. Between 1896 and 1903, the Pittsburgh Works delivered twenty-three of this type with 20x26″ cylinders, 63″ drivers and weighed better than 140,000 lbs. All had plain slide valves, the first half of the group had narrow fireboxes, the last ten engines had wide fireboxes. In 1903-4, the Schenectady Works furnished fifteen locomotives with 21x28″ cylinders, Walschaerts valve gear, 63″ drivers, weight 187,000 lbs., 200 pounds steam

pressure and a tractive effort of 33,300 lbs. In 1907, twelve more were purchased and when these were superheated, they were given a 21½x28" cylinder.

Under Pennsylvania control, it was only a question of time before their standard classes were sent over. The 1917 roster lists 169 locomotives ordered by the Vandalia and 83 built to P. R. R. standards, 26 of the latter were of the H-3 class. The last order were the four Pacifics, road numbers 9-12, delivered in 1913 and, be it said to their credit that all of these engines handled their passenger trains capably until the time of the consolidation. It was a sad sight to see them standing idle, rusting away, along with a lot of their "sisters" behind the roundhouse in Indianapolis. So much for standardization since they could not be sold for service on other roads. No one wanted them.

Photographs of Vandalia locomotives in actual service are not too common and the illustrations herewith have been selected from the Loomis collection and the files of this Society. They will convey better than words their own description and I hope that my few remarks will place them in their proper setting.

Henry Witherly Benchley (1822-1867)

Lieutenant Governor of Massachusetts—Railroad Conductor in Texas

By Andrew Forest Muir

It is a truism in American politics that, although but one heart beat separates an American vice president from the White House, most whilom vice presidents quickly disappear into the obscurity from which they briefly emerged. Even truer is the principle when applied to lieutenant governors, for the fame of few of the second highest executives of states has survived the termination of their official terms. An interesting case in point is that of Henry Witherly Benchley, who, having served for two years as lieutenant governor of the Commonwealth of Massachusetts shortly before the War of Rebellion, disappeared not only from Massachusetts but from public attention as well.

Benchley was born in Valley Forge, Pennsylvania, February 20, 1822, and his early years are even more obscure than the remainder of his obscure life. As early as 1848, however, he was a resident of Worcester, Massachusetts, where, according to the annual city directories, he worked as an armorer. By 1855 he had become a clerk in a store operated by one Merrifield. Turning his attention to politics, Benchley served in the house of representatives of the General Court of Massachusetts in 1853 and 1854 and in the senate in 1855. On November 6, 1855, he was elected lieutenant governor with 48,831 votes, and on November 4, 1856, he was reelected with 94,330 votes. Covering the calendar years of 1856 and 1857, Benchley's tenure was apparently uneventful. During the latter year, probably because of his former vocation as a mechanic as well as his residence in Worcester, he spoke at the dedication of the Mechanics Hall in that city.

Shortly after the end of his political career, Benchley removed to Texas. The first available record of him there, dated April, 1859, is a broadside announcing the opening of a singing school in San Antonio.

> It is conceded by all [he wrote in it] that the cultivation of Vocal Music is conducive to health, promotes unity and happiness in families, adds charm to social life, and is indispensable to the proper performance of the services of the sanctuary. It can and should be cultivated by all who have a voice to sing, and the ability to appreciate musical sounds.

At a fee of a dollar a month Benchley offered bi-weekly class instruction to both adults and children. Apparently San Antonio was unappreciative of the opportunities he extended, for by April of the following year he had removed Benchley's Singing Class to Houston, where his wife was titillating Victorian propriety with public lectures.

In July, 1860, Benchley began acquiring real estate in Texas, and until the end of his life he was actively engaged in buying and selling. Shortly after the outbreak of the Rebellion he was employed as a conductor by the Houston and Texas Central Railroad Company, then

operating between Houston and Millican. A Yankee, and probably an unionist, he possibly sought this job because the first Confederate exemption act had specifically exempted railway workers from military service. Certainly he was serving as a conductor early in the summer of 1863 when an Union officer, who had been captured in southern Louisiana shortly after the fall of Vicksburg, encountered him in this capacity as a group of prisoners was being removed by train from Houston to a prison of war camp at Hempstead.

> The conductor [Colonel Nott wrote] soon came upon his rounds, and as he passed me, asked in a whisper, if there were any Massachusetts officers among the prisoners. He was a tall, fine-looking man, with the tightness and trimness of dress that no one ever finds in a Southerner. I asked who he was, and learnt that he was Lieutenant-Governor B————, of Massachusetts. The fact was even so—an ex-Lieutenant-Governor of Massachusetts was a conductor on the South Western Railroad of Texas!

In February, 1864, Benchley left his position as conductor for another job with the railroad, possibly as armorer agent, but in 1865 he was again working as conductor. As such he continued for the remainder of his active life.

Although the head of a family consisting of his wife, Marietta K. Benchley, and four children, Benchley apparently never maintained a home in Houston, for he appears always to have roomed and boarded in the residence of D. O. Allen, a civil engineer, who served as Benchley's agent and attorney in fact when he was absent from town. His household property, indeed, consisted of no more than a bedstead, two mattresses, a pair of blankets, four pillows, and a trunk. As early as November 15, 1866, Benchley was ill, and he remained under a physician's care until February 24, 1867, when, during the absence of his wife in the north, he died of an unspecified disease. A day or two later his remains, encased in a metal coffin, were followed by eight carriages to the Masonic and Episcopal cemeteries, and there the burial service was read by the Reverend W. Rees, a Methodist minister. The Houston and Texas Central later erected a modest tombstone at his grave.

The only memorial to Benchley is the town of Benchley, in southwestern Robertson County, Texas, on the route of the former Houston and Texas Central. This settlement, originally known as Staggers Point, was named Benchley in honor of the former conductor by the land trustees of the railroad company who platted the town in 1869.

Worth Reading

Compiled by ELIZABETH O. CULLEN, *Librarian,*

Bureau of Railway Economics, Association of American Railroads,
Washington 6, D. C.

Books and Pamphlets

Applications of Electricity to Railways 1953. Bibliography of Periodical Articles . . ., prepared by Edmund Arthur Freeman, assistant librarian, Bureau of Railway Economics Library, Association of American Railroads. iv, 46 p. Classified by subjects such as "Railroad Electrification"; "Locomotives, Diesel-Electric"; "Locomotives, Electric"; "Air Conditioning, Cooling, Heating, Ventilation"; "Brakes"; Current"; "Electronics"; "Equipment—[in offices, railcars, shops, stations, terminals, trains, and yards]"; "Power"; "Radio and Communications"; "Signals and Train Control"; "Snow and Ice Melters"; "Television"; "Testing Equipment"; "Welding", and compiled from 46 periodicals published in United States, Great Britain, France, Germany, Belgium, and Switzerland. Appendix, pp. 33-46, contains lists contributed by the Communications, Electrical, and Signal Sections, A. A. R., Chicago, Illinois. Free on request to BRE Library, Washington 6, D. C.

Arid Domain—The Santa Fe Railway and Its Western Land Grant, by William S. Greever. x, 184 p. Stanford, Calif., Stanford University Press. $4.00.

Britain's Atomic Factories—The Story of Atomic Energy in Britain, by K. E. B. Jay, Division of Atomic Energy, Ministry of Supply. ix, 100 p., illus., diagrs. London, England, Her Majesty's Stationery Office. 5 shillings. For sale for $1.25, by British Information Services Sales Office, 30 Rockefeller Plaza, New York 20, N. Y.

British Railway History—An Outline from the Accessions of William IV to the Nationalisation of Railways, 1830-1876, by Hamilton Ellis. 443 p. Illus. London, England, George Allen and Unwin Ltd. $4.62.

. . . Centralized Traffic Control—Multiple Line Systems including Carrier Control Operation, by Signal Section, Association of American Railroads, Chicago 5, Illinois. *Chapter IV—Part 2* of its American Railway signaling Principles and Practices, published 1954. 147 p., illus., diagrs. For sale by Signal Section, 59 E. Van Buren St., Chicago 5, Ill. $1.25. Original (1940) edition of Ch. IV describes the series line systems, and is now referred to as Part 1.

Chinese Railways and British Interests 1898-1911, by E-tu Zen Sun (Mrs. Shiou-Chuan Sun). x, 230 p. New York, King's Crown Press, Columbia University. No price given.

The Class Rate Cases and the Minnesota Economy, by Edmund A. Nightingale, professor of economics and transportation, University of Minnesota. 6 p. Published as Business News Notes No. 19, Dec. 1954

by School of Business Administration, Univ. of Minnesota, Minneapolis, Minn.

. . . Code of Rules Governing the Condition of, and Repairs to, Freight and Passenger Cars for the Interchange of Traffic adopted by Association of American Railroads Operations and Maintenance Dept. Mechanical Division. Effective January 1, 1955. 389 p. For sale by Mechanical Division, A. A. R., 59 E. Van Buren St., Chicago 5, Illinois. 83 cents.

The Commerce Clause in the Constitution of the United States, by M. Ramaswamy, advocate, High Court of Mysore, Bangalore, India. 648 p. With a foreword by Robert H. Jackson. New York, Longmans, Green & Co. $10.50. ". . . This book is a painstaking study of the judicial development of this great federal power. It does not follow the classifications conventional in most discussions of the subject by American scholars. It is not an effort to bring the [Supreme] Court's work to the bar of judgment. It is a comprehensive review of the application of this clause to solve the conflicts and controversies that have arisen between local and national interests. . . ."

Development of Pressurizing, Combustion, and Ash Separation Equipment for a Direct-Fired, Coal-Burning, Gas Turbine Locomotive, by J. I. Yellot and others. 37 p. Illus., diagrs., graphs. New York 18, N. Y., American Society of Mechanical Engineers. 50 cents.

Diesel-Electrics . . . How to Keep 'Em Rolling. 139 p. Illus., Diagrs. New York 7, N. Y., Simmons-Boardman Publishing Corporation. Reprinted from Railway Locomotives and Cars.

The Economic State of New England. Report of Committee of New England, National Planning Association. xii, 738 p. Published by arrangement with the New England Council by Yale University Press, New Haven, Conn. $6.00. "Freight rates and New England's competitive position" pp. 443-471. "The New England transportation system and its uses" pp. 473-526.

Economics of Canadian Transportation, by A. W. Currie. vii, 727 p. Toronto, University of Toronto Press. $10.00. ". . . A fundamental and persistent problem in the history of Canadian transportation is the interplay of two radically different concepts: straight business principles on the one hand; and such matters as national unity, the movement of trade through Canadian ports, the opening up of new areas, defence, and avoiding the ruination of national credit on the other . . ."

The Economics of Transport, by Michael R. Bonavia. With an Introduction by C. W. Guillebaud. Revised ed., 1954. "Cambridge Economic Handbooks.—IX." xii, 219 p. London, England, Nisbet & Co. Ltd.; Cambridge, England, at the University Press. 8 shillings 6 pence.

Economics of Transportation in the United States—Some Essential Sources, A Bibliographical Memorandum, by Elizabeth O. Cullen, librarian, Bureau of Railway Economics Library, Association of American Railroads, Washington 6, D. C. 29 mimeo. 1. Free on request to BRE Library. "Requests for information on economic, financial, and legal aspects of transportation regulation, co-ordination, and consolidation in the United States are being received in increasing numbers from

railroad officers and from students of transportation throughout the world. . . . As an introduction to essential sources of information about the United States of America, the following bibliographical memorandum has been prepared to respond to these requests. Dated September 20, 1954.

The Florida Special, 1888-1954. A History, including Newspaper Accounts of the Initial Run, Jan. 9, 1888. 3 mimeo. 1. Free on request to Atlantic Coast Line Railroad Public Relations Representative, Wilmington, North Carolina.

The Freight Traffic Red Book . . . 1955. 26th annual edition, compiled and edited by Charles J. Fagg, Walter W. Weller. 1372 p. including Indexes. Folded map in color of Railroad Freight Classification Territories and Freight Association Rate Territories. New York 13, N. Y., Traffic Publishing Company. $15.00. "A Practical Reference Book for those actively engaged in Traffic Work; An Everyday Guide for the Shipper; A Condensed but Comprehensive Text Book for the Student of Freight Transportation" as well as for students in many other fields.

Gateway to the Northwest—The Story of The Minnesota Transfer Railway, by Frank P. Donovan, Jr. 32 p. Illus., Maps. Published by author, 114 W. 45th St., Minneapolis 9, Minn. 60 cents, paper-bound; $2.00 cloth-bound.

Great Railroad Stories of the World, edited with notes by Samuel Moskowitz. Introduction by Freeman H. Hubbard. New York, The McBride Co. $3.95. xii, 331 p. Contains: *Big Engine,* by William Edward Hayes; *Blowing Up A Train,* by T. E. Lawrence; *The Far and Near,* by Thomas Wolfe; *Flagman Thiel,* by Gerhart Hauptmann; *The Man Who Confessed,* by Frank L. Packard; *Mrs. Union Station,* by Doug Welch; *The Signal Man,* by Charles Dickens; *The Stolen Railroad Train,* by Marquis James; *A Tale of the Old Main Line,* by A. W. Somerville; *Trackside Grave,* by Jack McLarn; *A Toot for A Toot,* by Octavus Roy Cohen; *Train Going,* by William Saroyan; *Virginia and Truckee,* by Lucius Beebe and Charles Clegg; *Yardmaster,* by Jack McLarn.

A History of Piggy-Back, by Seymour Weitz. 23 proc. 1. Paper submitted to American Society of Traffic and Transportation, December 1954. Author's address is New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, N. Y.

Important Accessions 1954, Bureau of Railway Economics Library, by Harry L. Eddy, asst. reference librarian. 11 proc. 1. Sent out with its Recent Accessions of Interest No. 1020, Jan. 26, 1955. Free on request to BRE Library, Association of American Railroads, Washington 6, D. C. Lists annual reports of foreign railroads; bibliographies and reference lists; books; periodicals; proceedings; statistics and year books, and United States Government reports.

List of Maps showing Railway Lines—Revised December 1954, by Association of American Railroads, Washington 6, D. C. Free on request. " . . . While this Association does not publish maps for distribution, we have canvassed the publishing field and compiled the accompanying list of more than two hundred maps and atlases, with addresses of publishers, . . . "

Little Engines and BIG MEN, by Gilbert A. Lathrop. 326 p. Illus. Caldwell, Idaho, Caxton Printers, Ltd. $5.00. "This book is dedicated to the memory of Big Men and their Little Engines who lived the events which made the Story of Colorado's Narrow Gauges possible." "... they opened to men and their families homes in the then inaccessible high country ... There was a fraternity that was deeper than friendship between the folks who lived along the narrow gauges and the men who operated the trains. ..."

Locomotives In Our Lines—Railroad Experiences of Three Brothers for More Than Sixty Years 1890-1951, by A. Sheldon Pennoyer. xv, 238 p. Illus. New York, Hastings House—Publishers. $5.00. "... three brothers with careers as different as diplomacy, painting and law. ..."

Moody's Transportation Manual—Railroads—Airlines—Shipping—Traction, Bus and Truck Lines—1954. xxxvii, 1529 p., with Special Features Section, pp.a1—a114 inserted bet. pp. 800 and 801. New York 6, N. Y., Moody's Investors Service. $63.00. American and foreign coverage.

New 'Push-Button' Railway Fun, Reporter Discovers, by Alfred C. Anderson. "... From Memphis to Bruceton on NC&St.L. ..." Reprint from Memphis, Tenn. Press-Scimitar, Sept. 16, 1954, free on request to Nashville, Chattanooga & St. Louis Ry. Public Relations Representative, D. R. Hackney, Union Station, Nashville 2, Tenn.

"The Nickel Plate Road"—A Short History of the New York, Chicago & St. Louis R. R., by Lynne L. White, chairman of the board and president, ... Cleveland, Ohio. 28 p. New York, San Francisco, Montreal, The Newcomen Society in North America. Address at "1954 Lake Erie Dinner," Hotel Lawrence, Erie, Penna., of The Newcomen Society, Nov. 11, 1954.

Off With the Old—On With the New ... The Story of the Steam Locomotives of the Bessemer and Lake Erie Railroad and Predecessor Companies, by Roy C. Beaver, general manager, Frick Building, Pittsburgh 30, Penna. Dated July 15, 1954 and distributed in place of September issue of The Bessemer Bulletin. 64 p. Illus. For copies write to Mr. Beaver.

Popular Carriage—Two Centuries of Carriage Design for Road and Rail, by C. Hamilton Ellis. 32 p. Illus. London, Eng., British Transport Commission. 1 shilling.

Presentation of the Association of American Railroads to the Working Group of the President's Cabinet Committee on Transport Policy and Organization—A Summary. 16 mimeo. 1. Free on request to Law Department, Association of American Railroads, Washington 6, D. C.

Productivity—A Critique of Current Usage, by Lawis A. Maverick, professor of economics, Southern Illinois University. 34 p. including "Selected Bibliography" pp. 22-30. For sale by author, 701 South Oakland Avenue, Carbondale, Ill.

Progress in Railway Mechanical Engineering 1953-1954, by Committee (RR-6) on Survey, The American Society of Mechanical Engineers. T. F. Perkinson, chairman. Preprint. 17 proc. p. 46 illus. and diagrs.

Bibliography p. 15. Captions for illustrations, pp. 15-17. "Preprints will be available until October 1, 1955" from The Society, 29 W. 39th St., New York 18, N. Y. 25 cents to members; 50 cents to others. ". . . Nuclear energy, as it concerns motive power, received notable attention during the year . . ." p. 2. ". . . No treatise on the subject of railroad equipment would be complete without a reference to so-called 'Piggy-back' or rail-trailer operation. . . ." p. 13.

Rail Oddities—Odd and Interesting Facts about the Railroads. December 1954 edition. 40 p. Illus. Free on request to Association of American Railroads, Washington 6, D. C.

Rail Trailer. Trailers on Flat Cars—A Series of Questions and Answers. April 1954, by The Rail-Trailer Co., 228 N. LaSalle Street, Chicago 1, Ill. [100] mimeo. 1. Free on request to the company. ". . . contains over 125 questions and answers, so planned as to bring out all the facts concerning the economic, legal and historical development of trailers on flat cars."

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Realistic Goals for Railway Passenger Car Design, by T. C. Gray, vice-president, Engineering, Pullman-Standard Car Mftg. Co. 28 p. Illus., Diagrs. Contributed by Railroad Division, The American Society of Mechanical Engineers, 29 W. 39th St., New York 18, N. Y. Preprints available from the Society until Oct. 1, 1955, but price not stated. Abstract including illustrations and diagrams in Railway Locomotives and Cars, January 1955, pp. 52-55, 60.

Traffic World's Questions and Answer Book—Vol. 6. xx, 226 p. Washington 5, D. C., The Traffic Service Corporation. $3.00. ". . . contains all . . . that have appeared in Traffic World from July, 1953 to June, 1954, inclusive."

Train and Engine Books for Children, 6th edition. ". . . a guide to library reading and as a buying guide . . ." 19 p. Free on request to Association of American Railroads, Washington 6, D. C.

Transportation and Communication, by G. Lloyd Wilson. xi, 757 p. New York, Appleton-Century-Crofts, Inc. $6.00. ". . . designed as a general textbook for under-graduate students of business administration or graduate students who have not had a course in the transportation and communication utilities . . ."

Transportation In An Atomic Age, by Richard L. Bowditch, chairman of the board, Chamber of Commerce of the United States. 17 mimeo. 1. Address to 9th annual meeting, American Society of Traffic and Transportation, Inc., October 29, 1954. Free on request to Chamber of Commerce of the United States, Washington 6, D. C. ". . . If we're going to think of transportation in terms of an atomic age, let's project

our thinking to the year 1975. I choose that date because it's the one that has been selected by the President's Material Policy Commission in its 1952 report as the base year for projecting future needs of the nation. And I have another reason for choosing 1975. It's so close to 1976—the 200th anniversary of the United States—and Dr. George R. Harrison, Dean of the School of Science at MIT, has made some highly interesting projections based on 1976. By the year 1975, we will have just begun to reap the benefits of atomic energy. . . ."

WHO'S WHO in Railroading in North America—13th Edition—1954. C. B. Tavenner, editor. Anna Ortlinghaus, associate editor. 805 p. New York 7, Simmons-Boardman Publishing Corporation. $14.00.

Articles in Periodicals

Andean Rollercoaster, by Barrie Tait. The Grace Log, Jan.-Feb. 1955, pp. 8-9. Illus. ". . . The Guayaquil and Quito Railway. . . . it provides travelers with a complete portrait of Ecuador—from snowy heights to jungle floor . . ."

Application of Modern Scientific Research on Railroads of the United States, by Loyd J. Kiernan. United Nations Transport and Communications Review, July-Sept. 1954, pp. 26-54.

Automobile Rides Road or Rails. Compressed Air Magazine, Feb. 1955, p. 57. Illus. ". . . used by President Alfred E. Perlman of the New York Central for making inspection trips over the line . . . . . a conventional Chrysler car equipped with oversize tires and small flanged wheels. . . . designated officially as Train X-100, and when traveling the rails is subject to the same regulations and safeguards as small work cars. . . ."

Burlington Route Installs First Prestressed Concrete Trestle Slabs in the U. S. Concrete for Railways No. 51, [1955], pp. 3-5. Illus.

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CHICAGO UNLIMITED. Town & Country, Dec. 1954, pp. 86-87, 130, 133, 136. Illus. Prize plans for future development in Carson Pirie Scott's Centennial Competition, which include "a single transportation terminal which would not only handle Chicago's passenger railway traffic, but would also contain a bus terminal and a heliport" p. 133. Given to the City of Chicago.

Cotton Belt Builds Tilt-Up Freight House in Dallas. Concrete for Railways No. 51 [1955] pp. 6-9. Illus.

Covered Bridge Topics, Beverly, Mass. Railroad Covered Bridge Issue, Fall 1954. 8 p. Illus. "The 1954 Roster of Known Covered Railroad Bridges in the United States" p. 4.

Economics of "Highway Trailers on Flat Cars" Service. Report on Assignment 4 by American Railway Engineering Association Comm. 16—Economics of Railway Location and Operation collaborating with the American Association of Railroad Superintendents. American Railway Engineering Association Bulletin 518, Nov. 1954, pp. 334-342. "This is a progress report, submitted as information."

Faith in Steam . . . The Story of Norfolk & Western Locomotives, by David P. Morgan. Trains, November 1954, pp. 18-30. Illus.

Ferrocarriles Nacionales—El Ferrocarril Guayaquil—Quito, Su Pasado, Su Presente y Su Porvenir, by Magdaleno Collaguazo. List of General Managers since June 1944, p. 12. Financial and operating statistics 1941-1953, p. 12. Nariz del Diablo—Revista Ferroviario, Quito, Ecuador, Diciembre 1954, pp. 7-12.

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Lahore-Amritsar Train Service Resumed. ". . . after over seven years . . ." North Western Railway Magazine, Lahore, Pakistan, Oct.-Nov. 1954, pp. 20-21.

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Lehigh Valley Repairs Old Stone Abutments by Pressure Grouting. Concrete for Railways No. 51 [1955], pp. 10-12. Illus.

Locomotoras Diesel para la RENFE, by Manuel Prados y Lopez. Ferrocarriles y Tranvias, Madrid, Spain, Agosto 1954 [arrived Jan. 28, 1955], pp. 285-286. Illus. ". . . construidas en Alemania . . ."

Le Luxembourg et ses Chemins de Fer, by Georges Schmidt. La Vie du Rail-Notre Métier, No. 469, 31 Oct. 1954, pp. 3-8. Map and Illus.

Magnetic Particle Testing of Freight and Passenger Car Parts, by Kermit Skeie. The Car Foremen's Association of Chicago. . . . official proceedings covering the meeting of December 1954, pp. 20-28.

Nevada's Golden Railroad, by Lucius Beebe. Railroad Magazine, Jan. 1955, pp. 10-21, 56. Map and Illus. "The Virginia & Truckee, which served Nevada's fabled Comstock Lode during its bonzana years of the nineteenth century, was altogether a unique operation. It enjoyed the distinction of becoming legendary in its lifetime. . . ."

N S B Tekniske Meddelelser, Oslo, Norway, Sept. 1954—[Norwegian State Railways Centennial Issue, reviewing track development; locomotives and cars; construction and extension of lines; telephones, telegraph and other communications; signaling and interlocking for 100 years and electrified sections and electrical equipment for the last 40 years, with a reflection by a railway official (Nils Eckhoff) on the century of development and the solution of today's railroad problems] [59] p.

Overseas Railways 1954—A Railway Gazette Publication, London, England. 136 p. Illus. Maps. Articles on railroads in Australia and New Zealand; East Africa, Nigeria, Nyasaland, Rhodesia, South Africa, Sudan; Iraq; Burma; Ceylon; India; Malaya; Pakistan; Thailand; Canada; South America; Eire, introduced by "Railway Progress During 1954" by The Editor of The Railway Gazette. 238 p. of advertisements carrying out theme, illustrated part in color.

Piggy-Back Railroading—There's Happy Motoring Ahead Once Those Trucks Are Off The Road, by William F. McDermot. Pageant, December 1954, pp. 94-95. ". . . One of these days a most welcome, familiar sight will be a freight train of 100 cars speeding across the landscape with 200 mammoth truck trailers in tow. Just imagine those 200 trucks clogging the highway in your land, and you'll give thanks for the advent of piggy-back railroading."

Piggy-Backs . . . How're They Doing? by Nancy Ford. Modern Railroads, Feb. 1955, pp. 53-55. "A new era in transportation will be under way when the biggest railroad starts a new piggy-back service this month" [PRR's "True-Train"] ". . . And Now 'Fishy-backs' "—box, p. 55, Miami, Fla. to Puerto Rico, from March 1—"a project of TMT Trailer Ferry, Inc."

Planned Progress Projected, by D. B. Jenks, executive vice president, Rock Island. Central Western Shippers Advisory Board Proceedings No. 70, Nov. 8-9, 1954, Lincoln, Nebraska, pp. 23-27. ". . . I think the time has come for us to take a good, straight look at the future of the railroad industry as we, on the Rock Island, see it. . . . The other day I was talking to Harley Earl, Chief Designer for General Motors, and he was telling how they were working as much as five to ten years in advance for car models. Well, we are working on advance designs for better transportation, and we are looking more than ten years ahead. . . ."

Push-Button Railroading—Freight Cars Are Classified by Electropneumatic Devices, by J. C. Pierce. Compressed Air Magazine, Nov. 1954, pp. 308-312. Illus. At Bensenville, Ill. yard of The Milwaukee Road.

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Quebec, North Shore & Labrador—Why It Was Needed—How It Was Built—How It Is Operated—What Is Its Future, by Gardner C. Hudson and John H. Dunn. Railway Age, Oct. 4, 1954, pp. 44-62. Illus., Maps. Charts.

The Railroad Field—A Challenge and Opportunity for Young Engineers. American Railway Engineering Association Bulletin 520, Jan.

1955, pp. 576-585. Recommended text of brochure for distribution to undergraduates in colleges and others interested, prepared as its Report on Assignment 4 by Comm. 24—Cooperative Relations with Universities, AREA, collaborating with Mechanical Division, and Electrical, Signal and Communications Sections, Association of American Railroads.

Railroad Management Looks Ahead:—In 1955: Will the Upswing Hold? by Frank Richter; *Where Should Railroads Stand on Subsidies? Opinion Divided; 1955: Much Like Last Year,* by Nancy Ford; *In Washington: Many Vital Issues at Stake in 1955,* by Harry L. Tennant; *Railroad Improvements,* by Horace F. Hardy and Charles W. Behrens, list 1954 improvements and 1955 plans by railroads, some of which include "piggybacks"; *New Trains and Services,* by Edward T. Myers; *A New Era for Mechanical Departments,* by Frank Richter; *Automation in Engineering,* by Tom Shedd; *More Radio and CTC Ahead,* by Tom Shedd; *A New Role for Accounting,* by Val Rice. Modern Railroads, January 1955. Illustrated.

Rails West—The Rock Island Excursion of 1854 as reported by Charles F. Babcock. Minnesota History, Winter 1954, pp. 133-143. Illus. Babcock was "editor of a leading Connecticut newspaper, the New Haven Palladium . . . from June 1 to 15, he mailed . . . long and detailed letters that were published each day in his paper. Clipped from the Palladium and mounted in a little leather-bound notebook, a set was presented to the Minnesota Historical Society in 1933 by Mr. Jefferson Jones of Minneapolis. . . ."

Railway Age—Review and Outlook Issue—Jan. 10, 1955, 214 p. incl. illus., tables, graphs. *The Railroads' Outlook—As Railway Age Sees It; As the Financial Analysts See It; As Railroad Managements See It,* pp. 5-11. *Railroad Outlook,* pp. 118-141, includes: *Trends in Railroad Communications—Radio will be standard equipment on locomotives and cabooses and in all major yards,* by Robert W. McKnight; *What's the Passenger Car Outlook?* by C. B. Peck; *Locomotive and Car Shops Undergoing Changes,* by H. C. Wilcox and A. G. Oehler; *What Next in Motive Power? Acceptance of the diesel-electric is an established fact, with the replacement job nearing an end—Turbines, either gas or steam, look like the next step,* by A. G. Oehler and H. C. Wilcox. *A Review of 1954 Railway Operations,* by J. Elmer Monroe, pp. 142-157. *Statistical Review of 1954,* pp. 161-172.

Railway Freight Traffic Piggyback Issue, January 1955. 56 p. illus., with most advertisements related to subject.

The Railways of Australia 1854-1954. The Railway Gazette, London, Eng., Sept. 17, 1954, pp. 321-323. Map p. 320. See also p. 315 for "The First Steam Railway in Australia. Contemporary drawing by S. T. Gill of the original city terminus of the Melbourne & Hobsons Bay Railway in 1854."

Rubber Railroad Crossing. Compressed Air Magazine, Feb. 1955, p. 56. Illus. ". . . The first in the world. . . . on the main tracks of the Erie Railroad at Wilbeth Road in Akron, Ohio."

The Story of the High Point, Thomasville & Denton Railroad. The Signal, HPT&D RR Co., High Point, N. C., Sept-Dec. 1954, pp. 1-13. Illus.

Transportes Interplanetarios—La Revista TRANSPORTES patrocina el viaje interplanetario de uno de sus lectores. . . . Es posible la vida en otros mundos? por Joaquin Imedio, pp. 236, 237. *Las posibilidades actuales del viaje interplanetario,* por Fernando Sesma, pp. 252-253. *El hombre entre los planetas,* by L. Lerdo de Tejada. Illus.

Um die Koexistenz, by Dr. Johannes Kurze. Of railroads and motor trucks. Die Bundesbahn, Jan. 1955, pp. 3-5.

Vorlaufiger Jahresruckblich de Deutsche Bundesbahn Geschaftsjahn 1954. Die Bundesbahn, Jan. 1955, pp. 6-65. Tables. Illustrations include pictures of modern locomotives and other rolling stock.

World Traffic—Special Issue in English. Frankfurter Zeitung, Frankfurt-am-Main, Germany, October 1954. 40 p. Illus., Maps, Graphs. Articles by several authors.

New Books

Gateway to the Northwest, by Frank P. Donovan, Jr. 32 pages, 7⅞ x 5¼. Published by the author, 114 West 45th Street, Minneapolis (9), Minnesota. Illustrated. Price, 60c paper; $2.00 cloth.

This is a story of the Minnesota Transfer Railway, a road controlled by the nine railroads entering the Twin Cities, and the way it functions and serves the Northwest. The road is to the northwest what the Potomac Yards, opposite Washington, is to the south. True, the Minnesota Transfer Ry. does not run any "limiteds" with vista domes cars but, in its daily performance it shuffles plenty of freight cars to their proper destinations. In this book the author has combined with the daily performance, a brief account of its managers, its motive power and how the road came into being. There are two good maps to show its location and connections, several illustrations and an index. Our author-member is to be congratulated for his presentation of this subject and we can only hope our members will encourage him in this effort.

Locomotives of the Western Pacific, by Fred A. Stindt and Guy L. Dunscomb. 140 pages, 6 x 10, flexible ring type binder. Published by the authors, copies may be procured from Guy L. Dunscomb, 1027 Yale Ave., Modesto, California. Price $4.00, California residents $4.12.

The Western Pacific was by no means our first railroad to reach the Pacific Coast nor is it the largest but, from the reports that reach us here in the East, it is noted for its "California Zephyr," the scenic Feather River canyon and its capable management.

The authors of this interesting book have chosen to tell their story by the means of pictures; a fact that every "railfan" will appreciate. Where all of these illustrations came from over the years, one can simply wonder but it must have represented time and effort to assemble them and prepare them for the printer. However, the book has other good points besides the illustrations. The first thirty-four pages cover a brief history of the road and its branches, together with two good maps. The individual railroads acquired are given in detail and the railroad facilities are given at the different places. There is a good general description of all of their locomotives and additional history on certain locomotives. There is a complete roster and specifications of all locomotives together with their disposition and at the close there are several pages containing diagrams of the different locomotive classes, together with the dimensions which, in the years to come, should be of value to the model building fraternity. Some of our members gained the impression from the notice mailed them, that this book was published by our Pacific Coast Chapter. Such is not the case, it is the joint effort of the two authors who offered to set aside a portion of the receipts from each book for the equipment fund of that chapter. So far as the book is concerned, it represents one of the most careful and complete pieces of research that has been made in years of a single railroad and its interesting form of presentation cannot help but interest our membership. The quality of the work is in keeping with the road itself.

Grierson's Raid, by D. Alexander Brown. 261 pages, 9 x 6, illustrated. Published by the University of Illinois Press, Urbana, Illinois. Price $4.00.

This is the story of a volunteer brigade of Union cavalrymen under the command of Colonel Benjamin Grierson, that left their headquarters in La Grange, Tenn. on April 17, 1863 and sixteen days, 600 miles and several skirmishes later, entered Baton Rouge in triumph having ridden through the entire length of the state of Mississippi.

Grant was getting ready to attack Vicksburg and the purpose of this raid was to harass and divert the Confederates and to cut the Vicksburg & Meridian R. R. if possible. Within each cover of the book is shown the daily progress of the raiders and each chapter is devoted to a days advance with an inset map. The author, who by the way is the Librarian of the University of Illinois, has presented a smooth flowing account of this daring raid and many of the facts are based on the diary of one Sergeant Richard Surby of the scouts. As you read the book, one cannot but wonder how long Grierson's luck will hold in the face of all of those Confederate troops but, by clever maneuvers and ruses he succeeds in outwitting them and gains the safety of Baton Rouge. There is some railroad material in this book that will be of interest to the railroad historian but the book as a whole should be of interest because it recounts one of the most daring exploits of the Union Army.

British Railway History, 1830-1876, by Hamilton Ellis. 443 pages, 9⅛ x 6, illustrated. Published by George Allen and Unwin Ltd., London but copies may be procured from The Macmillan Co., 60 Fifth Ave., New York (11), N. Y. Price $6.75.

This is evidently the first volume in a set to cover the history of the British Railways to the time of their amalgamation into one large system. The author has wisely divided this work into three parts: 1830-1845, 1845-1861 and 1861-1876. In each part he has devoted his chapters to the origin and growth of the railways of that period and included a special chapter on the locomotives or the mechanical development during that same period. Thus the period from the building of the Liverpool & Manchester R. R., the first inter-city line to the time the Midland Ry. was completed to the border, the third and last main line, is covered in this book.

To the average American, who is not too familiar with his British railways and the location of many of the cities, this book may be a bit difficult but there are so many of the larger and well known companies covered that he should have no difficulty in following the story.

But the book is not a recitation of consolidations and dates. The author has succeeded in making these corporations very much alive through their management, some of which was honest, as on the Great Western and some of which was not as shown by Messrs. Hudson and Huish on their respective companies. In the early years, some of the railway magnates acted the part of robber barons. Then there are the men in the locomotive departments—Webb of the London & North Western and Stroudley, Drummond, Johnson, James and Patrick Stirling, David Jones and William Adams, to name a few. The author has given the part each played on his particular road.

Through the years histories of the individual railroads have been written and, because of the amalgamation, several have appeared in recent years. Some have been authored by the author of this book but this is the first attempt to include all of the railways in a series. Thanks to the well arranged index, this book will be invaluable for reference work but aside from that, if ever one undertakes a similar venture for the railroads in our own country, the author will do well to follow in the path set by Hamilton Ellis. Also, we had our periods of inflation, of overbuilding, our "robber baron period" and our rate wars until we had the steadying influence of the Interstate Commerce Commission in 1887. We were certainly no better and perhaps, no worse. One thing with this author, where praise is deserved, it has been awarded and, by the same token he has dealt out fair criticism even in the use of devices or methods used by our American railroads over those of the British. For a fair and comprehensive history of the British Railways, between the dates mentioned, there is no better book than this one to serve your purpose.

Locomotives in our Lives, by A. Sheldon Pennoyer. 238 pages, 11 x 7¾, illustrated. Published by Hastings House, 41 East 50th St., New York (22), N. Y. Price $5.00.

This is the story of the experiences of three brothers and their adventures with railroads commencing in the "gay nineties" and continuing to the present. Since this is the story of the author and his two brothers, there is no need for comment, one can only hope that Richard was "tanned in the proper place" after "borrowing" that S. F. & N. P. locomotive. The book as a whole, is of interest but this reviewer feels that the author is better at his own vocation as an artist for the work is not carefully planned and is sometimes difficult to follow.

Since many of the paintings done by the author are illustrated, it might do no harm to add a few words of comment here. The majority of our early locomotive builders had definite "earmarks" for their locomotives. These took the form in the stack, the tone of the bell, the shape of the bell yoke, the contour of the sand box and steam dome and the cab as well as others. There are probably not over half a dozen men alive today that can tell the builder and the approximate date of construction from an ordinary photograph but, if one is to delineate these locomotives, he must know these features. In addition he must know something of their capabilities, the line itself and all the hundred and one details that accompany the railroad. In later years, with the advent of railroad standards, he must know these as they originated on the different railroads.

Of the four reproductions of this author handled by this Society several years ago, the one of the "Stourbridge Lion" probably presented the most study and careful execution; those of "Snow Bound" and the "Pioneer" were the most artistic from a color point of view but the "American Express Train of 1870" was overdrawn. The artist claims that one train had had an engine failure and another came along and he depicted this train made up of both. The make up does not indicate

this and most of us are of the opinion that the little locomotive never could have handled such a long train.

A few years back an artist spent a summer in one of our northern New England states and every afternoon there came this two car local making a pretty picture skirting the lake. There was no regular engine assigned the train, sometimes it was of one type and sometimes another and, when the artist decided to paint the scene with the train in the foreground, he evolved a type of locomotive that no one ever saw before or since, thinking that was the best way out of the difficulty. Omitting the train, it was a beautiful painting. Another of our famous artists depicted a wonderful scene with one of our best passenger trains but, right in the foreground, he painted a rail joint that was entirely foreign to what that road used. A small item perhaps but, nevertheless it was out of place. In work of this kind, "artistic license," a convenient refuge, is not permitted.

The author exclaims with delight when he learned that locomotive driving wheels were painted red on the Hudson River locomotive "Empire State." Well, most of them were at the time. Science has come to our rescue and now we can determine accurately the original colors as shown in an ordinary photograph. With this, no artist should go wrong. In his painting of this locomotive and train, if it is standing still, one wonders what the crew are doing and why there is not some sign of life from the passengers at being stopped at this point and if it is moving slowly, then the smoke coming out of the stack is wrong.

His painting for Mr. Winterrowd, Vice President of the Lima Locomotive Works shows a non-descript locomotive and train with two men so close to the locomotive in the foreground, you wonder if they ever heard of "safety first." True, Mr. Winterrowd commissioned the author to paint "any train" and the artist used his own imagination. One wonders if Mr. Winterrowd might not have meant "any train that you are familiar" and, it would have been nice if the artist had selected one drawn by a Lima-built locomotive.

Two portraits of the "De Witt Clinton" appear, the second one an improvement over the first. "The Mountain Division" showing two modern trains passing each other, one wonders why the engineers have not shut off their headlights, something done on most railroads when trains pass each other at night. His painting for the late Daniel Willard, President of the Baltimore & Ohio R. R. faithfully shows the "W. K. Blodgett," a Rhode Island locomotive with its train of three cars but the latter seem to be crowded into the picture.

Delineation of our locomotives or trains, whether old or modern is not easy, it requires not only skill but a fundamental amount of knowledge and study of all phases of the subject but with the knowledge and the material we have at our disposal today, it should be of great help to any of these artists.

Richard H. Johnston

Richard Holland Johnston, retired librarian of the Bureau of Railway Economics of the Association of American Railroads and Life Member of this Society, passed away on January 2nd, last.

Born in Windsor, Ontario, where his father was a Methodist minister, he was graduated from the University of Toronto in 1889 and did post graduate work in theology at Victoria College. He was librarian at the latter college until 1897.

It was this year that Dr. Johnston came to this country and joined the staff of the Library of Congress. He helped the library move from the Capitol to its present site. In 1910 he joined the Bureau of Railway Economics and, with two truckloads of books and a staff of cataloguers, he started their library. When the Association of American Railroads was formed and included the Bureau of Railway Economics, Dr. Johnston and his staff became a part of that organization. Upon his retirement in 1947, this library had some 300,000 books, pamphlets, reports, etc., relating to transportation which is generally conceded as second to none in this country.

Honored by all of the library societies, he wrote a "Bibliography of Thomas Jefferson" in 1905. But the work for which he will always be known best is the one entitled "Railway Economics" which is a collective catalogue listing the books on railroads and transportation in fourteen American libraries. Altho' published in 1912 and out of date because of the years that intervened, it still has great value to the researcher.

Two years after this Society was formed, in 1923, Dr. Johnston applied for and was granted a Life Membership. He always felt that our work, in a measure, supplemented that of his own and the relations between this Society and the Bureau of Railway Economics have always been the most cordial.

"The Chief," as he was affectionately called, was nationally known in library and railroad circles and his passing will leave a gap that will be difficult to fill. Perhaps the library of the Bureau of Railway Economics can be justly considered his life work and monument. If so, I can think of a no more useful memorial to serve the interests of those that are interested in transportation and its history.

In Memory of

Graham Brush
Annual Member
30 East 68th St., New York, N. Y.
Who Died on July 1, 1954

Edward H. Coe
Life Member
8048 North 7th Ave., Phoenix, Arizona
Who Died on Nov. 2, 1954

Harry Cotterell, Jr.
Annual Member
36 Alexander St., Newark, New Jersey
Who Died on February 2nd, 1955

Richard H. Johnston
Life Member
Washington, D. C.
Who Died on January 2nd, 1955

George Plumly
Contributing Member
2812 Midvale Ave., Philadelphia, Pa.
Who Died on August 18, 1954

Kenneth M. Pratt
Annual Member
Bennington, Vermont
Who Died on August 7, 1954